

# Kansas Geological Survey

## Publications, Accomplishments, and Service

### 2016

#### Refereed Publications

- Bohling, G. C., Liu, G., Dietrich, P., and Butler, J. J., Jr., 2016, Reassessing the MADE direct-push hydraulic conductivity data using a revised calibration procedure: *Water Resources Research*, v. 52, no. 11, p. 8,790–8,985, doi: 10.1002/2016WR019008.
- Brookfield, A., and Gnau, C., 2016, Optimizing water management for irrigation under climate uncertainty: Evaluating operational and structural alternatives in the Lower Republican River Basin, Kansas, USA: *Water Resources Management*, v. 20, no. 2, p. 607–622.
- Brookfield, A., Gnau, C., and Wilson, B., 2016, Incorporating surface water operations in an integrated hydrologic model: Model development and application to the Lower Republican River Basin, USA: *Journal of Hydrologic Engineering*, doi: 10.1061/(ASCE)HE.1943-5584.
- Brookfield, A. E., Macpherson, G. L., and Covington, M. D., 2016, Early view. Effects of changing meteoric precipitation patterns on groundwater temperature in karst environments: *Groundwater*, doi: 10.1111/gwat.12456.
- Butler, J. J., Jr., Whittemore, D. O., Wilson, B. B., and Bohling, G. C., 2016, A new approach for assessing the future of aquifers supporting irrigated agriculture: *Geophysical Research Letters*, v. 43, no. 5, p. 2,004–2,010, doi: 10.1002/2016GL067879.
- Ivanov, J., Tsoflias, G., Miller, R. D., Peterie, S., Morton, S., and Xia, J., 2016, Impact of density information on Rayleigh surface wave inversion results: *Journal of Applied Geophysics*, v. 135, p. 43–54.
- Katz, B., Stotler, R., Hirmas, D., Ludvigson, G., Smith, J., and Whittemore, D., 2016, Geochemical recharge estimation and the effects of a declining water table: *Vadose Zone Journal*, p. 1–13, doi:10.2136/vzj2016.04.0031.
- Knight, R., Walsh, D. O., Butler, J. J., Jr., Grunewald, E., Liu, G., Parsekian, A. D., Reboulet, E. C., Knobbe, S., and Barrows, M., 2016, NMR logging to estimate hydraulic conductivity in unconsolidated aquifers: *Groundwater*, v. 54, no. 1, p. 104–114, doi: 10.1111/gwat.12324.
- Layzell, A. L., Mandel, R. D., Rittenour, T. M., Smith, J. J., Harlow, R. H., and Ludvigson, G. A., 2016, Stratigraphy, morphology, and geochemistry of late Quaternary buried soils on the High Plains of southwestern Kansas, USA: *Catena*, v. 144, p. 45–55. <http://dx.doi.org/10.1016/j.catena.2016.05.003>.
- Liu, G., Knobbe, S., Reboulet, E. C., Whittemore, D. O., Handel, F., and Butler, J. J., Jr., 2016, Field investigation of a new artificial recharge approach for ASR projects in near-surface aquifers: *Groundwater*, v. 54, no. 3, p. 425–433, doi: 10.1111/gwat.12363.
- Malehmir, A., Socco, L. V., Bastani, M., Krawczyk, C. M., Pfaffhuber, A. A., Miller, R. D., Maurer, H., Frauenfelder, R., Suto, K., Bazin, S., Merz, K., and Dahlin, T., 2016, Near-surface geophysical characterization of areas prone to natural hazards: A review of the current and perspective on the future; in, *Advances in Geophysics*, v. 57, L. Nielsen, ed.: Elsevier Inc., Amsterdam, The Netherlands, p. 51–146.
- Miller, R. D., Black, W., Miele, M., Morgan, T., Ivanov, J., Peterie, S., and Wang, Y., 2016, High resolution seismic reflection to improve accuracy of hydrogeologic models in Ventura County, California, USA: *Leading Edge*, v. 35, n. 9, p. 760–769.
- Poteet, J., Goldstein, R. H., and Franseen, E. K., 2016, Diagenetic controls on stepwise shifts in location of reservoir sweet spots relative to structural highs: *in*, *Reservoir Quality of Clastic and Carbonate Rocks: Analysis, Modelling and Prediction*, Armitage, P. J., Butcher, A. R., Churchill, J. M., Csoma, A. E., Hollis, C., Lander, R. H., Omma, J. E., and Worden, R. H., eds.: Geological Society, London, Special Publications, 435, 39 p.

- Sawin, R. S., 2016, Classification of red beds at Point of Rocks, Morton County, Kansas: A historical review: Kansas Geological Survey, Current Research in Earth Sciences, Bulletin 262, 6 p.  
<http://www.kgs.ku.edu/Current/2016/Sawin/Bulletin262.pdf>
- Sawin, R. S., and West, R. R., 2016, Surficial geology of Morris County, Kansas: Kansas Geological Survey, Map M-125, scale 1:50,000. <http://www.kgs.ku.edu/General/Geology/County/klm/morrisLarge.html>
- Schwenk, J. T., Sloan, S. D., Ivanov, J., and Miller, R. D., 2016, Surface-wave methods for anomaly detection: Geophysics, v. 81, p. EN29–EN42.
- Smith, J. J., Layzell, A. L., Lukens, W. E., Morgan, M. L., Keller, S. M., Martin, R. A., and Fox, D. L., 2016, Getting to the bottom of the High Plains aquifer: New insights into the depositional history, stratigraphy, and paleoecology of the Cenozoic High Plains; *in*, Unfolding the Geology of the West, Keller, S. M., and Morgan, M. L., eds.: Geological Society of America Field Guide 44, p. 93–124, doi:10.1130/2016.0044(04).
- Suarez, C. A., Flaig, P. P., Ludvigson, G. A., González, L. A., Tian, R., Zhou, H., McCarthy, P. J., Van Der Kolk, D. A., and Fiorillo, A. R., 2016, Reconstructing the paleohydrology of a Cretaceous Alaskan paleopolar coastal plain from stable isotopes of bivalves: Palaeogeography, Palaeoclimatology, Palaeoecology, v. 441, p. 339–351. <http://dx.doi.org/10.1016/j.palaeo.2015.07.025>.
- Whittemore, D. O., Butler, J. J., Jr., and Wilson, B. B., 2016, Assessing the major drivers of water-level declines: New insights into the future of heavily stressed aquifers: Hydrological Sciences Journal, v. 61, no. 1, p. 134–145, doi: 10.1080/02626667.2014.959958.

### Nonrefereed Publications

- Alig, P., Mandel, R. D., Layzell, A. L., Meade, T., Perkl, B., Keeney, K., and Hall, S. M., 2016, Phase II intensive archaeological inventory survey of eight areas and the National Register of Historic Places site evaluation of two sites within the Fort Leavenworth, U.S. Army Garrison Command, Leavenworth County, Kansas: Report to U.S. Army Garrison Command, Fort Leavenworth, Kansas by the U.S., Army Corps of Engineers, Kansas City District. Report prepared for the U.S. Army Garrison Command, Fort Leavenworth, Kansas.
- Bennett, B., and Brohammer, M., 2016, 2016 Water level data acquisition statistics: Kansas Geological Survey, Open-File Report 2016-32, 19 p.
- Brookfield, A., 2016, Evaluating alternatives to increase the water available to water rights in the Lower Republican River Basin scenarios: Progress report: Technical Report for Kansas Water Office, 14 p.
- Brookfield, A., Stotler, R., and Hill, M., 2016, Quantifying recharge in the High Plains aquifer in Kansas by coupling space and ground observations: Technical Report for Kansas NASA EPSCoR, 17 p.
- Brookfield, A. E., 2016, Minimum saturated thickness calculator: Method overview and spreadsheet description: Kansas Geological Survey, Open-File Report 2016-3, 7 p.
- Brookfield, A. E., 2016, Water is for fighting over and other myths about water in the West: Groundwater, v. 55:1, doi: 10.1111/gwat.12485.
- Butler, J. J., Jr., Whittemore, D. O., Reboulet, E., Knobbe, S., Wilson, B. B., Stotler, R. L., and Bohling, G. C., 2016, High Plains aquifer index well program: 2015 annual report: Kansas Geological Survey, Open-File Report 2016-4, 179 p.
- Dunham, J. W. (compiler), 2016, The Flint Hills with prairie areas (map): Kansas Geological Survey, Open-File Report 2016-1, scale 1:325,000.
- Evans, C., 2016, Earthquakes in Kansas: Causes and remediation: KEMSA Chronicle, Kansas Emergency Medical Services Association, v. 2, issue 3, p. 23–25.
- Gomez-Hernandez, J. J., Butler, J. J., Jr., and Fiori, A., 2016, Groundwater transport in highly heterogeneous aquifers: Eos, v. 97, doi:10.1029/2016EO047263.
- Holubnyak, Y., Watney, W., Birdie, T., Rush, J., and Fazalalavi, M., Reservoir modeling of CO<sub>2</sub> injection in Arbuckle saline aquifer at Wellington Field, Sumner County, Kansas: Kansas Geological Survey, Open-File Report 2016-29, 150 p.
- Ludvigson, G. A., 2016, Geologic mapping in the state of Kansas: Kansas Geological Society Bulletin, v. 91, no. 4, p. 12–13. <http://www.kgslibrary.com/downloads/bulletins/2016/July%20-%20August%202016.pdf>
- Ludvigson, G. A., Mandel, R., Macfarlane, A., and Smith, J. J., 2016, Capturing the record of Neogene climate change from strata of the High Plains aquifer in Kansas: Research activities and findings: Open-File Report 2016-31, 32 p. [http://www.kgs.ku.edu/Publications/OFR/2016/OFR16\\_31/index.html](http://www.kgs.ku.edu/Publications/OFR/2016/OFR16_31/index.html)
- Miller, R. D., Peterie, S. L., Gonzales, J. B., Intfen, J. W., and Buchanan, R. C., 2016, Earthquake Highlights, Issue 1: Kansas Geological Survey, Open-File Report 2016-20, 29 p.

- Peterie, S. L., Miller, R. D., Bennett, B., Anderson, J., and Scobee, J., 2016, Baseline seismicity observed at seismograph station RC01 near Bushton, Kansas: Kansas Geological Survey, Open-File Report 2016-22, 17 p.
- Peterie, S. L., Miller, R. D., Gonzales, J. B., Bennett, B. C., Anderson, J. M., and Scobee, J. R., 2016, Seismicity observed at seismograph station RC01 located near Bushton, Kansas: January 1 to June 30, 2016: Kansas Geological Survey, Open-File Report 2016-33 13 p.
- Peterie, S. L., Miller, R. D., Gonzales, J. B., Intfen, J. W., and Buchanan, R. C., 2016, Earthquake Highlights, Issue 2: Kansas Geological Survey, Open-File Report 2016-21, 14 p.
- Peterie, S., Miller, R. D., and Ivanov, J., 2016, Overview of passive seismic characterization and monitoring recommendations for high priority salt jugs near the Irsik & Doll Elevator, BNSF Railroad, and William Street in Hutchinson, Kansas: Report to Burns & McDonnell Engineering Company, June 2016, Kansas Geological Survey, Open-File Report 2016-26, 27 p.
- Peterie, S., Miller, R. D., and Ivanov, J., 2016, Overview of passive seismic characterization and monitoring recommendations for high priority salt jugs near the V&S Railroad right-of-way in Hutchinson, Kansas: Report to Burns & McDonnell Engineering Company, June 2016, Kansas Geological Survey, Open-File Report 2016-25, 26 p.
- Sawin, R. S., 2016, Preliminary surficial geology of the Lincoln County portion of the Juniata and Brookville SW quadrangles, Kansas: Kansas Geological Survey, Open-File Report 2016-5, 1 sheet, scale 1:24,000.  
[http://www.kgs.ku.edu/Publications/OFR/GeoMaps/KsGS\\_OFR2016-05\\_Juniata\\_Brookville\\_SW.pdf](http://www.kgs.ku.edu/Publications/OFR/GeoMaps/KsGS_OFR2016-05_Juniata_Brookville_SW.pdf)
- Sawin, R. S., 2016, Preliminary surficial geology of the Lincoln County portion of the Sylvan Grove quadrangle, Kansas: Kansas Geological Survey, Open-File Report 2016-8, 1 sheet, scale 1:24,000.  
[http://www.kgs.ku.edu/Publications/OFR/GeoMaps/KsGS\\_OFR2016-08\\_Sylvan\\_Grove.pdf](http://www.kgs.ku.edu/Publications/OFR/GeoMaps/KsGS_OFR2016-08_Sylvan_Grove.pdf)
- Sawin, R. S., 2016, Preliminary surficial geology of the Lincoln quadrangle, Lincoln County, Kansas: Kansas Geological Survey, Open-File Report 2016-6, 1 sheet, scale 1:24,000.  
[http://www.kgs.ku.edu/Publications/OFR/GeoMaps/KsGS\\_OFR2016-06\\_Lincoln.pdf](http://www.kgs.ku.edu/Publications/OFR/GeoMaps/KsGS_OFR2016-06_Lincoln.pdf)
- Sawin, R. S., 2016, Preliminary surficial geology of the Vesper quadrangle, Lincoln County, Kansas: Kansas Geological Survey, Open-File Report 2016-9, 1 sheet, scale 1:24,000.  
[http://www.kgs.ku.edu/Publications/OFR/GeoMaps/KsGS\\_OFR2016-09\\_Vesper.pdf](http://www.kgs.ku.edu/Publications/OFR/GeoMaps/KsGS_OFR2016-09_Vesper.pdf)
- Sawin, R. S., 2016, Preliminary surficial geology of the Westfall NW quadrangle and the Lincoln County portion of the Westfall SW quadrangle, Kansas: Kansas Geological Survey, Open-File Report 2016-11, 1 sheet, scale 1:24,000.  
[http://www.kgs.ku.edu/Publications/OFR/GeoMaps/KsGS\\_OFR2016-11\\_Westfall\\_NW\\_Westfall\\_SW.pdf](http://www.kgs.ku.edu/Publications/OFR/GeoMaps/KsGS_OFR2016-11_Westfall_NW_Westfall_SW.pdf)
- Sawin, R. S., 2016, Preliminary surficial geology of the Westfall quadrangle and the Lincoln County portion of the Westfall SE quadrangle, Kansas: Kansas Geological Survey, Open-File Report 2016-10, 1 sheet, scale 1:24,000.  
[http://www.kgs.ku.edu/Publications/OFR/GeoMaps/KsGS\\_OFR2016-10\\_Westfall\\_Westfall\\_SE.pdf](http://www.kgs.ku.edu/Publications/OFR/GeoMaps/KsGS_OFR2016-10_Westfall_Westfall_SE.pdf)
- Sawin, R. S., and West R. R., 2016, Data control points used to construct the surficial geology map (M-125) of Morris County, Kansas: Kansas Geological Survey, Open-File Report 2016-2, 240 p.  
[http://www.kgs.ku.edu/Publications/OFR/2016/OFR16\\_02/index.html](http://www.kgs.ku.edu/Publications/OFR/2016/OFR16_02/index.html)
- Stover, S., and Evans, C. S., 2016, West-Central Kansas—Natural resources, economics, and decisions for the future, 2016 Kansas Field Conference guide: Kansas Geological Survey, Open-File Report 2016-23, 68 p.,  
[http://www.kgs.ku.edu/Field/Reports/KGS\\_OF\\_2016-23.pdf](http://www.kgs.ku.edu/Field/Reports/KGS_OF_2016-23.pdf)
- Suchy, D., and Stewart, D., 2016, WWC5 forms and KOLAR: Location reporting: Kansas Geological Survey, Open-File Report 2016-27, 59 p.
- Wilson, B. B., 2016, Establishing Kansas as a data provider to the National Ground-water Monitoring Network: Kansas Geological Survey, Open-File Report 2016-28, 12 p.  
[http://www.kgs.ku.edu/Hydro/Publications/2016/OFR16\\_28/index.html](http://www.kgs.ku.edu/Hydro/Publications/2016/OFR16_28/index.html)
- Woods, J. J., and Wilson, B. B., 2016, Western Kansas GMD1 maps: Kansas Geological Survey, Open-File Report 2016-19, 7 maps, [http://www.kgs.ku.edu/Hydro/Publications/2016/OFR16\\_19/index.html](http://www.kgs.ku.edu/Hydro/Publications/2016/OFR16_19/index.html)

## Abstracts

- Brookfield, A. E., Hill, M. C., Stotler, R. L., and Porter, M. E., 2016, Interpreting satellite-based data from the GRACE mission using in-situ measurements from the High Plains aquifer in Kansas: Governor's Conference on the Future of Water in Kansas, Manhattan, Kansas, November 14–15.
- Brookfield, A. E., Macpherson, G. L., and Covington, M. D., 2016, Effects of changing meteoric precipitation patterns on groundwater temperature in karst environments: Presentation with abstract, GSA Annual Meeting,

- Denver, Colorado, September 25–28.
- Butler, J. J., Jr., 2016, Assessing the sustainability of aquifers supporting irrigated agriculture, invited presentation for Earth Resources Engineering Symposium, National Academy of Engineering, Washington, D.C., October 11 (downloadable video at <http://blog.uvm.edu/webwizrd-nae/presentations/>).
- Butler, J. J., Jr., 2016, Subsurface characterization over a range of temporal and spatial scales, invited presentation for 2016 CUAHSI Biennial Symposium—Finding your place in big data: Using observations to understand hydrologic processes for predicting a changing world, Shepherdstown, West Virginia, July 26 (p. 21 at [www.cuahsi.org/Files/Pages/documents/25003/2016\\_cuahsi\\_biennial\\_program\\_-\\_online.pdf](http://www.cuahsi.org/Files/Pages/documents/25003/2016_cuahsi_biennial_program_-_online.pdf)).
- Butler, J. J. Jr., Whittemore, D. O., and Wilson, B. B., 2016, Assessing prospects for sustainability in the High Plains aquifer in southwest Kansas, Governor's Conference on Future of Water in Kansas, Manhattan, Kansas, November 15 ([http://www.kwo.org/Projects/2016\\_Govs\\_Conf/PowerPoints/Day%202/Butler\\_Sustainability%20Assessment%20for%20SW%20Kansas.pdf](http://www.kwo.org/Projects/2016_Govs_Conf/PowerPoints/Day%202/Butler_Sustainability%20Assessment%20for%20SW%20Kansas.pdf)).
- Butler, J. J. Jr., Whittemore, D. O., and Wilson, B. B., 2016, The High Plains aquifer: A Kansas perspective, invited presentation for American Geosciences Institute Critical Issues Forum—Addressing Changes in Regional Groundwater Resources: Lessons from the High Plains Aquifer, Golden, Colorado, October 27 (downloadable presentation at <https://www.americangeosciences.org/policy/ci-forum-2016/presentations>).
- Butler, J. J., Jr., Whittemore, D. O., and Wilson, B. B., 2016, The High Plains aquifer in Kansas: Current conditions and future projects: Geological Society of America Abstracts with Programs v. 48, no. 7, doi:10.1130/abs/2016AM-281471, invited presentation at the 2016 GSA Conference, September 27.
- Butler, J. J., Jr., Whittemore, D. O., Wilson, B. B., and Bohling, G. C., 2016, A sustainability index for assessment and management of aquifers supporting irrigated agriculture, Abstract H54B-05, 2016 Fall Meeting, American Geophysical Union, San Francisco, December 15.
- Butler, J. J. Jr., Whittemore, D. O., Wilson, B. B., and Knobbe, S., 2016, Monitoring the hydrologic impacts of the Sheridan 6 Local Enhanced Management Area, Governor's Conference on Future of Water in Kansas, Manhattan, Kansas, November 15 ([http://www.kwo.org/Projects/2016\\_Govs\\_Conf/PowerPoints/Day%202/Butler\\_LEMA.pdf](http://www.kwo.org/Projects/2016_Govs_Conf/PowerPoints/Day%202/Butler_LEMA.pdf)).
- Core, E. E., Ramirez, W. R., Santos, H., Ortega-Ariza, D., and Franseen, E. K., 2016, Miocene-Pliocene Heterozoan-Dominated Systems in the Dominican Republic: Analogs for Neogene Reservoirs in the Caribbean: AAPG/SEPM Annual Meeting, Calgary, Canada.
- Core-Suárez, E. E., Ramirez, W. R., Santos-Mercado, H., Ortega-Ariza, D., and Franseen, E. K., 2016, Miocene-Pliocene Heterozoan-Dominated Systems in the Dominican Republic: Analogs for Neogene Reservoirs in the Caribbean: Kansas Interdisciplinary Carbonate Consortium Annual Review Meeting. EXTENDED ABSTRACT
- Feigenbaum, D. Z., Ivanov, J., Miller, R. D., Peterie, S. L., and Morton, S. L. C., 2016, Near-surface Qp and Qs estimations using multichannel analysis of surface waves (MASW) and the effect of non-fundamental mode energy on Q-estimation: An example from Yuma Proving Ground, Arizona: Annual Meeting of the Society of Exploration Geophysicists, Dallas, Texas, October 16–21, p. 4971-4976. EXPANDED ABSTRACT
- Flotron, A. N., Goldstein, R. H., and Franseen, E. K., 2016, Sedimentologic and Stratigraphic Controls on Reservoir Sweet Spots in Wolfcamp 'A,' Howard County, Midland Basin: Kansas Interdisciplinary Carbonate Consortium Annual Review Meeting. EXTENDED ABSTRACT
- Franseen, E.K., 2016, Some Primary Factors on Depositional and Stratigraphic Nature of Heterozoan and Mixed Heterozoan-Photozoan Carbonate Systems: Kansas Interdisciplinary Carbonate Consortium Annual Review Meeting. EXTENDED ABSTRACT
- Franseen, E. K., and Goldstein, R. H., 2016, Build-and-Fill Stratigraphic Sequences in Carbonates: Abstract Book, Dolomieu Conference on Carbonate Platforms and Dolomite, Selva Di Val Gardena, Italy, October 4-7, p. 53-54.
- Golab, J. A., and Smith, J. J., 2016. Effects of biogenic porosity on the petrophysical properties of the karstic Lower Cretaceous Glen Rose Limestone, Bexar County, Texas. Geological Society of America, Abstracts with Programs, 48(7), doi: 10.1130/abs/2016AM-283302.
- Graham, M. A., Möller, A., Ludvigson, G. A., Hallman, J. A., and Smith, J. J., 2016, Trace element fingerprinting of Yellowstone hotspot track (YHT) major eruptions in volcanic ashes from High Plains strata in Kansas: Geological Society of America, Abstracts with Programs, v. 48, no. 7. doi: 10.1130/abs/2016AM-281965.
- Hallman, J. A., McLean, N., Möller, A., Ludvigson, G. A., Smith, J. J., and Sitek, B. C., 2016, Spatial and temporal patterns of Ogallala Formation deposition revealed by U-Pb zircon geochronology: Geological Society of America, Abstracts with Programs, v. 48, no. 7. doi: 10.1130/abs/2016AM-279868.

- Holubnyak, Y., Watney, L., and Bidgoli, T. S., 2016, Lessons learned from waste water disposal in Kansas: Applications for CO<sub>2</sub> geological storage: 15th Annual Conference on Carbon Capture Utilization & Storage, Tysons, Virginia, June 13–16, 2016.
- Holubnyak, Y., Watney, W., Birdie, T., Rush, J., Fazalalavi, M., and Wreath, D., 2016, Pilot scale CO<sub>2</sub> EOR at Wellington Field in South-Central Kansas: 15th Annual Conference on Carbon Capture Utilization & Storage, Tysons, Virginia, June 13–16.
- Ivanov, J., Miller, R. D., and Peterie, S. L., 2016, Detecting and delineating voids and mines using surface wave methods in Galena, Kansas: Annual Meeting of the Society of Exploration Geophysicists, Dallas, Texas, October 16–21, p. 2,344–2,350. EXPANDED ABSTRACT
- Joeckel, R. M., Tucker, S. T., Ludvigson, G. A., Möller, A., Field, H. L., and Korus, J. T., 2016, The emerging deeper understanding of Cenozoic stratigraphy in Nebraska and the power of interstate cooperation: Geological Society of America, Abstracts with Programs, v. 48, no. 7. doi: 10.1130/abs/2016AM-285804.
- Layzell, A. L., Ludvigson, G. A., and Fox, D. L., 2016, Stable isotopic paleohydrology of pedogenic carbonate nodules from Pliocene paleosols in the Meade Basin, southwestern Kansas: Geological Society of America, Abstracts with Programs, v. 48, no. 7. doi: 10.1130/abs/2016AM-281581.
- Lechtenberg, K. S., Goldstein, R. H., and Franseen, E. K., 2016, Modeling Controls on the Architecture of Phylloid Algal and Associated Reservoirs from Outcrop Analogs: Lower Ismay Zone (Pennsylvanian), Utah, USA: AAPG/SEPM Annual Meeting, Calgary, Canada.
- Ludvigson, G. A., González, L. A., Joeckel, R. M., Suarez, M. B., Möller, A., and Ross, J. B., 2016, Exploring the frontier of terrestrial Aptian-Albian (Cretaceous) C-isotope stratigraphy and paleoclimatology: A tribute to the scientific career of Michael A. Arthur: Geological Society of America, Abstracts with Programs, v. 48, no. 7. doi: 10.1130/abs/2016AM-281223.
- Ludvigson, G. A., González, L. A., Suarez, M. B., Joeckel, R. M., and Möller, A., 2016, Terrestrial paleoclimatology of the Early Cretaceous Western Interior foreland basin of North America: AAPG Annual Convention & Exhibition, Calgary, Alberta, June 19–22.
- Ludvigson, G. A., González, L. A., Suarez, M. B., and Möller, A., 2016, Terrestrial records of carbon isotope excursions associated with Aptian-Albian (Cretaceous) OAEs: SEPM Research Conference on Oceanic Anoxic Events, November 2–7, Austin, Texas, USA.
- Morton, S. L. C., Peterie, S. L., Ivanov, J., Miller, R. D., Feigenbaum, D., Sloan, S. D., Moran, M. L., and Cudney, H. H., 2016, Feasibility study using surface wave attenuation and seismic quality factor for tunnel detection at the Yuma Proving Ground, Arizona: Annual Meeting of the Society of Exploration Geophysicists, Dallas, Texas, October 16–21, p. 2,351–2,356. EXPANDED ABSTRACT
- Ortega-Ariza, D., and Franseen, E. K., 2016, Effects of sea level and upwelling on development of a Miocene shallow-water tropical carbonate ramp system, Ponce, Puerto Rico, USA: Abstract Book, Dolomieu Conference on Carbonate Platforms and Dolomite, Selva Di Val Gardena, Italy, October 4–7, p. 113–114.
- Ortega-Ariza, D., Franseen, E. K., Santos-Mercado, H., Ramirez-Martinez, W., and Core-Suárez, E., 2016, Strontium-isotope stratigraphy for Oligocene-Miocene carbonate systems in Puerto Rico and the Dominican Republic: Implications for Caribbean processes affecting depositional history, XII International Scientific Research Congress, Ministry of Higher Education - Science and Technology (MESCYT), Santo Domingo, Dominican Republic.
- Peterie, S. L., Miller, R. D., Ivanov, J., Wang, Y., Morton, S., Sloan, S. D., Moran, M., and Cudney, H., 2016, Tunnel detection using SH-wave diffraction imaging: Annual Meeting of the Society of Exploration Geophysicists, Dallas, Texas, October 16–21, p. 5,006–5,010. EXPANDED ABSTRACT
- Platt, B. F., Hembree, D. I., Smith, J. J., and Buynevich, I. V., 2016, Neoichnology at the Santa Catalina Critical Zone Observatory: Three-dimensional analysis of soil fauna burrows from the Sonoran Desert, Arizona, USA. Geological Society of America, Abstracts with Programs, 48(7), doi: 10.1130/abs/2016AM-287558.
- Pugliano, T., Goldstein, R. H., and Franseen, E. K., 2016, Diagenetic and stratigraphic impact on petrophysical properties of heterozoan carbonates: Kansas Interdisciplinary Carbonate Consortium Annual Review Meeting. EXTENDED ABSTRACT
- Pugliano, T., Goldstein, R. H., and Franseen, E. K., 2016, Fining upward cyclothems and clinothems are fundamental units making up the architecture of many heterozoan carbonate systems: Kansas Interdisciplinary Carbonate Consortium Annual Review Meeting. EXTENDED ABSTRACT
- Pugliano, T. M., Goldstein, R. H., and Franseen, E. K., 2016, Fundamental controls on modeling reservoir properties of fining-updip heterozoan carbonates: AAPG/SEPM Annual Meeting, Calgary, Canada.
- Pugliano, T. M., Goldstein, R. H., Franseen, E. K., and Eltom, H., 2016, Impact of low-temperature diagenesis on petrophysical properties in heterozoan carbonates: Abstract Book, Dolomieu Conference on Carbonate



- Platforms and Dolomite, Selva Di Val Gardena, Italy, October 4-7, p. 125–126.
- Sitek, B. C., Smith, J. J., Möller, A., Ludvigson, G. A., McLean, N., and Hallman, J. A., 2016, Chronostratigraphy of the Ogallala Formation in western Kansas: A new approach using paleosols: Geological Society of America, Abstracts with Programs, v. 48, no. 7. doi: 10.1130/abs/2016AM-281004.
- Sloan, S. D., Cudney, H. H., Miller, R. D., Ivanov, J., and Moran, M. L., 2016, Depth estimation of voids using backscattered surface waves: Annual Meeting of the Society of Exploration Geophysicists, Dallas, Texas, October 16–21, p. 2,362–2,366. EXPANDED ABSTRACT
- Smith, J. J., Ludvigson, G. A., Layzell, A. L., Möller, A., Stotler, R. L., Harlow, R. H., Petronis, M., Rittenour, T. M., and Doveton, J. H., 2016, Maximum depositional age constraints and provenance of Cenozoic deposits of the central High Plains in western Kansas, USA: Geological Society of America, Abstracts with Programs, v. 48, no. 7. doi: 10.1130/abs/2016AM-287381.
- Smith, J. J., Ludvigson, G. A., Layzell, A., Stotler, R. L., and Möller, A., 2016, Scientific drilling in the Cenozoic strata of the High Plains of western Kansas. Transactions of the Kansas Academy of Science, Abstracts from the 148th Annual Meeting of the Kansas Academy of Science, 119(2): 261.
- Smith, J. J., Stover, S. G., and Johnston, P., 2016. The Neal trace fossil locality: a new Pennsylvanian ichnofossil assemblage in Greenwood County, Kansas. Geological Society of America, Abstracts with Programs, v. 48, no. 7, doi: 10.1130/abs/2016AM-287434.
- Stotler, R. L., Butler, J. J., Jr., Hirmas, D. R., Johnson, W. C., Katz, B. S., Knobbe, S., Layzell, A. L., Long, M. M., Ludvigson, G. A., Reboulet, E. C., Smith, J. J., and Whittemore, D. O., 2016, Understanding the role of geology on recharge to and production from the High Plains aquifer in Kansas: Geological Society of America Abstracts with Programs v. 48, no. 7, doi:10.1130/abs/2016AM-283041, presentation at the 2016 GSA Conference, September 27.
- Vero, S. E., Macpherson, G. L., Sullivan, P. L., Brookfield, A. E., Kirk, M. F., Datta, S., and Kempton, P., 2016, The Konza Prairie, Northeast Kansas, USA: The hydrologic evolution of a merokarst landscape: Poster with abstract, AGU Fall Meeting, San Francisco, California, December 12–16.
- Wang, Y., Baker, G. S., and Miller, R. D., 2016, Near-surface vibroseis signal enhancement using a fractional Fourier domain method: Annual Meeting of the Society of Exploration Geophysicists, Dallas, Texas, October 16–21, p. 2,372–2,376. EXPANDED ABSTRACT
- Whittemore, D. O., Butler, J. J., Jr., and Wilson, B. B., 2016, The importance of capture in stream valleys to water resources in the High Plains aquifer, Governor's Conference on Future of Water in Kansas, Manhattan, Kansas, November 15 ([http://www.kwo.org/Projects/2016\\_Govs\\_Conf/PowerPoints/Day%202/Whittemore\\_Importance%20of%20Capture.pdf](http://www.kwo.org/Projects/2016_Govs_Conf/PowerPoints/Day%202/Whittemore_Importance%20of%20Capture.pdf)).

## Presentations

- Brookfield, A. E., Hill, M., and Porter, E., 2016, Developing tools for data-model integration in fully-coupled hydrologic models: NASA Goddard Terrestrial Water Cycle Seminar Series, Greenbelt, Maryland, January 13.
- Butler, J. J., Jr., 2016, Aquifer testing for improved hydrogeologic site characterization featuring Aqtesolv and the In-Situ LevelTroll (two-day short course), Midwest Geosciences Group, Montreal, Quebec, April 14–15, and Fort Collins, Colorado, October 18–19.
- Butler, J. J., Jr., 2016, Assessing the future of the High Plains aquifer in Kansas (teleconference), Kansas Farm Bureau Tour, August 25.
- Butler, J. J., Jr., 2016, Assessing the sustainability of aquifers supporting irrigated agriculture: A case study of the High Plains aquifer in Kansas (invited presentation), Department of Earth and Environmental Sciences, Michigan State University, September 30.
- Butler, J. J., Jr., 2016, Assessing the sustainability of aquifers supporting irrigated agriculture (invited presentation), Earth Resources Engineering Symposium on Groundwater Depletion, National Academy of Engineering, Washington, D.C., October 11.
- Butler, J. J., Jr., 2016, Drought resilience and groundwater: A Kansas perspective (invited presentation), Drought Resilience and Groundwater Workshop, Robert S. Kerr Environmental Research Center, Environmental Protection Agency, Ada, Oklahoma, August 4.
- Butler, J. J., Jr., 2016, Geohydrology section overview, KGS Advisory Council, April 26.
- Butler, J. J., Jr., 2016, GMD2 sustainability assessment: Initial results, GMD2 Board Meeting, Halstead, June 24.
- Butler, J. J., Jr., 2016, Groundwater forum advanced aquifer testing program design (half-day short course), 24<sup>th</sup> NARPM Training Program, Environmental Protection Agency, Pittsburgh, Pennsylvania, May 3.

- Butler, J. J., Jr., 2016, Hydrogeological methods for estimation of spatial variations in hydraulic conductivity (invited presentation), National Ground Water Association Groundwater Sampling and Environmental Monitoring Workshop, Lawrence, Kansas, July 28.
- Butler, J. J., Jr., 2016, KGS Index Well Program update, KGS Advisory Council, November 4.
- Butler, J. J., Jr., 2016, KGS update: High Plains aquifer activities, Kansas Water Authority, Oakley, May 17.
- Butler, J. J., Jr., 2016, Prospects for extending the lifetime of the High Plains aquifer, Kansas Farm Bureau 9<sup>th</sup> District Meeting, Tribune, April 7.
- Butler, J. J., Jr., 2016, Prospects for extending the lifetime of the High Plains aquifer—The role of groundwater flow, 60<sup>th</sup> Annual Meeting of the Southwest Kansas Irrigation Association, Ulysses, February 9.
- Butler, J. J., Jr., 2016, Pumping tests for aquifer evaluation: Overview of theory and practice, KU Geology 592/792, March 30.
- Butler, J. J., Jr., 2016, Subsurface characterization over a range of temporal and spatial scales (invited presentation), 2016 CUAHSI Biennial Symposium, Shepherdstown, West Virginia, July 26.
- Butler, J. J., Jr., 2016, What does the future hold for the High Plains aquifer? KU Mini College, Lawrence, June 9.
- Butler, J. J., Jr., and Whittemore, D. O., 2016, Index Well Program, Kansas Water Office, Topeka, May 24.
- Butler, J. J., Jr., Whittemore, D.O., and Wilson, B. B., 2016, The High Plains aquifer: A Kansas perspective (invited presentation): American Geosciences Institute Critical Issues Forum – Addressing Changes in Regional Groundwater Resources: Lessons from the High Plains Aquifer, Golden, Colorado, October 27.
- Butler, J. J., Jr., Whittemore, D. O., and Wilson, B. B., 2016, The High Plains aquifer in Kansas: Current conditions and future prospects, Pardee Keynote Session – The High Plains Aquifer: Can It be Managed for Today and the Future? (invited presentation), 2016 Geological Society of America Annual Meeting, Denver, Colorado, September 27.
- Butler, J. J., Jr., Whittemore, D. O., and Wilson, B. B., 2016, Sustainability of aquifers supporting irrigated agriculture: A case study of the High Plains aquifer in Kansas (invited presentation), OECD-WFI Virtual Water in Agriculture Products: Quantification, Limitations, and Trade Policy Workshop, Lincoln, Nebraska, September 16.
- Dunham, J. W., 2016, Surficial geology of Morris County, Kansas: Map Gallery (poster) presentation, Esri International User Conference, San Diego, California, June 27.
- Dunham, J. W., 2016, ‘You are Here’ – Flint Hills Maps & Education Program: Map Gallery (poster) presentation, Esri International User Conference, San Diego, California, June 27.
- Franseen, E. K., 2016, Organizer and Convener, 2016 Kansas Interdisciplinary Carbonates Consortium (KICC) Annual Meeting
- Franseen, E. K., 2016, Scientific Committee Member - Dolomieu Conference on Carbonate Platforms and Dolomite, Selva di Val Gardena, Italy, October 4-7
- Franseen, E. K., 2016, Session Chair – Carbonate Platforms Through Space and Time, Dolomieu Conference on Carbonate Platforms and Dolomite, Selva di Val Gardena, Italy, October 4-7
- Franseen, E. K., 2016, Invited speaker – Permian Basin Section-SEPM, Character of the Avalon Shale (Bone Spring Formation) of the Delaware Basin, West Texas and Southeast New Mexico: Effect of Carbonate-rich Sediment Gravity Flows, Midland, Texas, January 19.
- Franseen, E. K., 2016, Invited talk, Total E&P, Some Primary Factors on Depositional and Stratigraphic Nature of Heterozoan and Mixed Heterozoan-Photozoan Carbonate Systems, Houston, Texas, May 17.
- Franseen, E. K., 2016, Invited talk, Total E&P, Potential Caribbean Outcrop Analog Sites for Cenozoic Mixed Heterozoan-Photozoan Caribbean reservoir systems, Houston, Texas, May 17.
- Johnson, W. C., Dunham, J. W., and Child, S. F., 2016, Geologic Mapping of Rice County, Kansas: poster presented by William C. Johnson, Geological Society of America 2016 Annual Meeting, Denver, Colorado, September 25–28.
- Layzell, A. L., 2016, A stratigraphic assessment of streambank erodibility in northeastern Kansas: Kansas Geological Survey Advisory Council Meeting, November
- Layzell, A. L., and Mandel, R. D., 2016, Variability of streambank erosion in northeast Kansas: The importance of litho- and soil-stratigraphy: Transactions of the Kansas Academy of Science, vol. 119, no. 2, p. 252.
- Layzell, A. L., Mandel, R. D., Ziska, C., and Bozell, R., 2016, Developing a geographic information system (GIS) as a predictive tool for locating deeply buried archaeological deposits in Nebraska: 74<sup>th</sup> Plains Anthropological Conference, Lincoln, Nebraska.
- Ludvigson, G. A., 2016, The emerging terrestrial record of Mid-Cretaceous global change: Department of Earth and Environmental Sciences, University of Iowa, Iowa City, Iowa, October 21.

Smith, J. J., 2016, Getting to the Bottom of the High Plains Aquifer: New insights into the Depositional History and Stratigraphy of the Cenozoic High Plains: National Association of State Boards of Geology, Council of Examiners Workshop Subject Matter Experts meeting, November 4, 2016, Lawrence, KS

Smith, J. J., 2016, High Plains-Ogallala Drilling Program: Progress Report and Preliminary Findings: Kansas Geological Mapping Advisory Committee, April 2, 2016, Lawrence, Kansas.

Smith, J. J., Ludvigson, G. A., Layzell, A. L., Stotler, R., Möller, A., 2016, Scientific drilling in the Cenozoic strata of the High Plains of western Kansas: Transactions of the Kansas Academy of Science, vol. 119, no. 2, p. 261.

Smith J. J., Stover, S., and Johnston, P., 2016, The Neal Trace Fossil Locality: A new Pennsylvanian ichnofossil assemblage in Greenwood County, Kansas: Poster presentation at Geological Society of America, September 28, Denver, Colorado.

Stover, S. G., 2016, Water in Kansas: Kaw Valley High School, January 19.

Stover, S. G., 2016, Expanding interest and opportunities for girls and women in science, technology, engineering and math (STEM) fields: Zonta International Women's Club, February 16, Topeka, Kansas.

Stover, S. G., 2016, Water in Kansas: University of Kansas geography class, April 12, Lawrence, Kansas.

Stover, S. G., 2016, Water and Kansas: A Brief History: Washburn University, April 19, Topeka, Kansas.

Stover, S. G., 2016, The Kansas Neosho River: A short history: Fredonia Library, March, Fredonia, Kansas.

Stover, S. G., 2016, Ogallala aquifer: Are we making progress? Science on Tap, Free State Brewing Company, July 27, Lawrence, Kansas.

Stover, S. G., 2016, The High Plains aquifer: Are we making progress: Optimist Club, August 2, Topeka, Kansas.

Stover, S. G., 2016, Science Quiz, Women In Science day: Washburn University, October 11, Topeka, Kansas.

Stover, S. G., 2016, Water and negotiation in the west, invited speaker, Addressing changes in regional groundwater resources: Lessons from the High Plains aquifer: AGI Critical Issue Forum, Oct 27–28, Golden, Colorado.

Stover, S. G., and Buchanan, R., moderators, 2016, The High Plains aquifer: Can it be managed for today and the future? Invited Pardee Session, Geological Society of America annual meeting, September 27, Denver, Colorado.

Suchy, D. R., and Stewart, D., September 2016, WWC-5 forms and KOLAR: Location reporting, KDHE Geology and Well Technology Section Fall 2016 Seminar and Training Event, Wichita, Kansas.

Wilson, B. B., 2016, Southwest Kansas Irrigators Association.

Wilson, B. B., 2016, Western Kansas GMD1 Annual Meeting, Tribune.

Wilson, B. B., 2016, Southwest Kansas GMD3 Annual Meeting.

Wilson, B. B., 2016, Wichita County WCA Group.

Wilson, B. B., 2016, Wallace County Irrigators.

Wilson, B. B., 2016, Kansas Rural Water Association Conference.

Wilson, B. B., 2016, KU's Speed Dating Researchers.

Wilson, B. B., 2016, National Groundwater Monitoring Network conference.

Wilson, B. B., 2016, National geographic Magazine Interview.

## **Awards & Honors**

Dunham, J. W., 2016 Esri International User Conference Map Gallery, International Cartographic Association (ICA) and International Map Industry Association (IMIA) Excellence in Cartography Award for “Surficial Geology of Morris County, Kansas”

Dunham, J. W., 2016 Esri International User Conference Map Gallery, 2nd place, Large Format Printed Map category, also for “Surficial Geology of Morris County, Kansas”

## **Internal Service**

Brookfield, A. E.—Representative, KU Center for Science and Research Support

Brookfield, A. E.—Organized section seminars from February through June

Brookfield, A. E.—Performed 8 agency reviews

Buchanan, R.— Kansas Field Conference, West-Central Kansas, August 17-18, 2016

Butler, J. J., Jr.—Co-Chair, KGS Director Search Committee.

Evans, C. S.—KGS Eagle Days booth, Lawrence, Kansas, January 23

Evans, C. S.— Kansas Field Conference, West-Central Kansas, August 17-18, 2016



Franseen, E. K.—Member, Promotion and Review Committee  
 Franseen, E. K.—Member, Stratigraphic Nomenclature Committee  
 Franseen, E. K.—Member, Editorial Board for Current Research on Kansas Geology Bulletin  
 Layzell, A. L.—Member, KGS Stratigraphic Nomenclature Committee  
 Ludvigson, G. A.—Chair, Search Committee for Director of the Kansas Geological Survey.  
 Ludvigson, G. A.—Member, KU Research Promotion Committee.  
 Ludvigson, G. A.—Co-Chair, Search Committee for Director of the Kansas Geological Survey.  
 Sawin, B.—Kansas Field Conference, West-Central Kansas, August 17-18, 2016  
 Sawin, R. S.—Chair, KGS Stratigraphic Nomenclature Committee  
 Smith, J. J.—Member, Kansas Geological Mapping Advisory Committee (KGMAC).  
 Smith, J. J.—Member, search committee for Quaternary Geologist, KGS  
 Smith, J. J.—Member, Outstanding Support Staff Recognition Award Committee, KGS  
 Stover, S. G.—Kansas Field Conference, West-Central Kansas, August 17-18, 2016  
 Stover, S. G.—Member, Kansas Geologic Mapping Advisory Committee  
 Stover, S. G.—KGS booth, Kansas Rural Water Association, March 29–31, Wichita, Kansas  
 Stover, S. G., KGS booth, Earth Day at the Zoo, April 23, Topeka, Kansas  
 Stover S. G.—KGS booth, Kansas Independent Oil and Gas Association, August 14–15, Wichita, Kansas  
 Stover, S. G.—Edu-Lobby Committee, Earth, Energy, and Environment Center, University of Kansas  
 Stover, S. G.—Six environmental reviews of proposed projects, as part of inter-agency coordination.  
 Suchy, D. R.—Volunteer, KGS booth at Kaw Valley Eagles Day event, Free State High School, Lawrence, Kansas, January 23.  
 Suchy, D. R.—Volunteer, KGS Earth Day booth, Topeka Zoo, Topeka, Kansas, April 23.  
 Suchy, D. R.—Volunteer, KGS table at Earth Science Day, KU Natural History Museum, Lawrence, Kansas, October 15.  
 Tollefson, J. M.—Member, KGS Outstanding Support Staff Recognition Award Committee  
 Tollefson, J. M.—Ex-officio member, KGS Stratigraphic Nomenclature Committee

## External Service

Brookfield, A. E., Newsletter editor, Hydrogeology Division of Geological Society of America  
 Brookfield, A. E.—Associate Editor, Ground Water  
 Brookfield, A. E.—Courtesy Assistant Professor, KU Geology Department  
 Brookfield, A. E.—WRAPS Representative  
 Brookfield, A. E.—manuscript reviews: Water Resources Research (1), Ground Water (4), Journal of Hydrology (2), Journal of Geosciences Education (1), Hydrology Research (1)  
 Brookfield, A. E.—Member, 1 PhD and 1 MSc committee (KU Geology)  
 Brookfield, A. E.—Instructor, Geo 591/791 Differential Equations for Hydrology, Spring 2016  
 Brookfield, A. E.—Member, KU Geology's Career Panel  
 Brookfield, A. E.—Guest lecturer, KU Geology Hydro Field School, Practical Modeling  
 Butler, J. J., Jr.—Associate Editor, Ground Water.  
 Butler, J. J., Jr.—Member, Search Committee for Chapman Conference Series Chair, American Geophysical Union.  
 Butler, J. J., Jr.—Member, Kansas Water Resources Institute Administrative Council.  
 Butler, J. J., Jr.—Member, Organizing Committee, NovCare 2017 (Novel Methods for Subsurface Characterization and Monitoring: From Theory to Practice), Dresden, Germany.  
 Butler, J. J., Jr.—Panel member, United States Geological Survey/National Institutes for Water Resources National Competitive Grants Program.  
 Butler, J. J., Jr.—Reviewer for the National Science Foundation, Water Resources Research, the Wisconsin Geological and Natural History Survey, the Ecohydrology Journal, and Geophysical Research Letters.  
 Butler, J. J., Jr.—Promotion evaluator for King Fahd University of Petroleum and Minerals, Saudi Arabia.  
 Butler, J. J., Jr.—Member, Erin Haacker Ph.D. committee, Michigan State University  
 Butler, J. J., Jr.—Member, Brooks Bailey M.S. committee, University of Kansas.  
 Evans, C. S.—Developed geologic mapping section questions for 2016 Northeast Kansas Regional Science Olympiad  
 Franseen, E. K.—Evaluator, Faculty Teaching, Department of Geology, University of Kansas  
 Franseen, E. K.—Co-Organizer, KU Geology Career Symposium, Department of Geology, University of Kansas

Franseen, E. K.—Students Supervised: Diana Ortega-Ariza, Ph.D. (chair); Elson Core, Ph.D. (chair); Cesar Cuapio-Perez, Ph.D. (co-chair); Clay Robertson, MS (co-chair); Alyssa Flotron, MS (co-chair); Rafferty Sweeney, MS (co-chair); Tony Pugliano, MS (co-chair); Leila Joyce, Ph.D. (committee member); Adrienne Duarte, MS (committee member); Jason Rush, Ph.D. (committee member); Jennifer Lowry, MS (committee member); Thomas Neal, MS (committee member); Maritha Huber, MS (committee member); Erich DeZoeten, MS (committee member); Sean Fischer, MS (committee member); Alex Nolte, MS (committee member); Andrew Hollenbach, MS (committee member).

Franseen, E. K.—KICC (Kansas Interdisciplinary Carbonates Consortium) post-docs supervised: Hassan Eltom, University of Kansas (2014–present).

Franseen, E. K.—Member, Board of Visitors (Alumni Board), Department of Geology, University of Wisconsin-Madison.

Franseen, E. K.—Chair, SEPM Officer Election Committee

Franseen, E. K.—Member, SEPM Student Research Grant Evaluation Committee

Franseen, E. K.—Member, Review Committee for abstracts submitted to the 2017 AAPG Annual Meeting

Franseen, E. K.—External Advisor, Earth and Space Sciences Department, Columbus State University, Georgia

Franseen, E. K.—Scientific Committee Member, Dolomieu Conference on Carbonate Platforms and Dolomite, Selva di Val Gardena, Italy, October 4-7

Franseen, E. K.—Session Chair, Carbonate Platforms Through Space and Time, Dolomieu Conference on Carbonate Platforms and Dolomite, Selva di Val Gardena, Italy, October 4-7

Layzell, A. L.—Reviewer, Geological Society of America Mackin, Howard, and Morisawa student awards, Quaternary Geology and Geomorphology Division

Layzell, A. L.—Chair, Topical Session (Soils and Geology), Kansas Academy of Science Annual Meeting

Ludvigson, G. A.—Citationist, Geological Society of America Eugene and Caroline Shoemaker Public Service Award to Rex C. Buchanan, Annual Meeting of the Geological Society of America, Denver, Colorado, September 25–28.

Ludvigson, G. A.—Topical Session Organizer, Topical Session T201 on Cenozoic Geology of the Great Plains and Western United States: Toward an Integrated Understanding of a Sedimentary, Paleoeologic, and Geohydrologic System, Annual Meeting of the Geological Society of America, Denver, Colorado, September 25–28,

Ludvigson, G. A.—Associate Editor, *Journal of Sedimentary Research*, Society for Sedimentary Geology.

Smith, J. J.—Panelist, National Science Foundation-Sedimentary Geology and Paleobiology Proposal Review Panel, Washington DC, April 18-20, 2016.

Smith, J. J.—Member, SEPM Election Committee

Smith, J. J.—Co-Chair, James Golab, KU Ph.D. Dissertation, with Luis Gonzalez.

Smith, J. J.—Co-Chair, Elijah Turner, KU Undergraduate Honors Thesis, with Andreas Möller.

Smith, J. J.—Earth Science Day event, KU Natural History Museum, Lawrence, Kansas.

Smith, J. J.—Peer Reviews: one manuscript for *Journal of Sedimentary Research*, one manuscript for *Palaeogeography*, *Palaeoclimatology*, *Palaeoecology*, and one manuscript for *PALAIOS*.

Smith, J. J.—Rocks and fossils presentation to all third-grade classes at Eudora Elementary School, Eudora, KS, February 2016.

Stewart, D. L.—Oil and gas data on the KGS website, log scanning and materials and resources in the Data Resources Library, presentation to University of Kansas Geology 535 class, September 13.

Stewart, D. L.—Earth Day Celebration at the Topeka Zoo, April 23

Stewart, D. L.—KGS representative for the KU United Way Campaign, Lawrence, Kansas.

Stover, S. G.—2016, Vice Chair, Geology & Society Division, Geological Society of America

Stover, S. G.—Organizer and Moderator, Governor’s Water Conference on the Future of Water in Kansas, November 14–15, 2016 Manhattan, Kansas

Stover, S. G.—Steering Committee, Women in Science STEM workshop, Washburn University

Stover, S. G.—Member, Geology Associates Advisory Committee, Geology Department, University of Kansas

Stover, S. G.—Geology & Society outstanding student presentation award judge and coordinator, GSA annual meeting, September 25–28, Denver, Colorado

Stover, S. G.—Mentor, GSA annual meeting, September 26, Denver, Colorado

Stover, S. G.—Subject Member Expert, Association of State Boards of Geology (ASBOG); evaluated tests for geologic licensing, August 4–5, November, Lawrence, Kansas

Stover, S. G.—Appointed Member, Water Vision Education Committee, Kansas Water Office

Stover, S. G.—GSA, Public Service Award Committee member, Geological Society of America

Stover, S. G.—USGS-GSA Congressional Science Fellow Selection Committee, Geological Society of America, March 4–7, Washington D.C.  
Suchy, D. R.—Member and Chairman, Board of Directors, Rural Water District #5, Douglas County, Kansas.  
Suchy, D. R.—Member and Treasurer, Board of Directors, Public Wholesale Water Supply District #25, Douglas and Osage Counties, Kansas.

## Grants

Establishing Kansas as a Data Provider to the National Groundwater Monitoring Network (NGWMN), B.B. Wilson, PI; U.S. Geological Survey, Grant G16AC00017, \$13,209.  
Geologic Mapping in Kansas for FY16, PI Ludvigson, Co-PIs Johnson, Dunham, Mandel, Newell, Sawin, Smith, U.S. Geological Survey STATEMAP Program, 2016-2017, \$151,010.  
National Geological and Geophysical Data Preservation Program Grant to Data Resources Library, Wichita Well Sample Library, and KGS Library and Archive, Kansas Geological Survey, Daniel R. Suchy, PI; administered through U. S. Geological Survey, 2016–2017, \$64,599.

## Computer Software

Victorine, J. R.—**PSI Tides Java Applet - Lunar and Solar Tidal Pressure**, developed to read the Wellington KGS 1-28 CSV pressure/temperature files, to analyze the pressure data and to understand the pressure changes. The computer program removes the solar & lunar tidal pressures from the filtered measured pressure data and plots the data as profile plot in time. The final pressure with the lunar and solar pressures removed are plotted with the barometric pressure times the barometric efficiency factor. The two curves have been shown to line up almost entirely across each weeks measurements. The program shows that you can account for the natural every day influences, lunar & solar pressure and the barometric pressure, and basically all that is left is fluid movement due to the formation. [http://www.kgs.ku.edu/PRS/Ozark/Software/PSI\\_Tides/index.html](http://www.kgs.ku.edu/PRS/Ozark/Software/PSI_Tides/index.html)

Victorine, J. R.—**Gridding & Mapping Animation Java Applets**, a gridding and mapping module that allows the user to plot brine data for the CO<sub>2</sub> Project Wells Map.

### – CO<sub>2</sub> Brine Data Gridding & Mapping Field Animation

The map area is limited to 14 wells surrounding the CO<sub>2</sub> injection well, Wellington KGS 2-32. A limited set of brine sample measurements were taken on a regular basis to monitor the progression of the CO<sub>2</sub> in the Mississippian formation around the injection well, i.e. PH, Conductivity, Temperature, Alkalinity, Total Dissolved Solids (TDS), etc. The data was saved to the KGS database and each measurement set (sample date) was given a lab group number so the animation program could generate individual images by date for the animation.

[http://www.kgs.ku.edu/PRS/Ozark/Software/GRID\\_FIELD/index.html](http://www.kgs.ku.edu/PRS/Ozark/Software/GRID_FIELD/index.html)

### – Fluid Level Gridding & Mapping Animation

The map area is limited to 14 wells surrounding the CO<sub>2</sub> injection well, Wellington KGS 2-32. The fluid level was monitored on a regular basis to monitor the progression of the CO<sub>2</sub> in the Mississippian formation around the injection well, i.e. Oil Cut, Barrels of Oil per Day, Fluid Levels, Bottom Hole Pressure, etc. The data was saved to the KGS database and each measurement set (sample date) was given a fluid group number so the animation program could generate individual images by date for the animation.

[http://www.kgs.ku.edu/PRS/Ozark/Software/GRID\\_FLUID/index.html](http://www.kgs.ku.edu/PRS/Ozark/Software/GRID_FLUID/index.html)

## Website

- Placed 36 publications online
- Placed 44 open-file reports online
- Scanned more than 27,000 water well records
- Scanned more than 23,000 wireline logs
- Launched revised GeoKansas: A place to learn about Kansas geology

# 2015

## Refereed Publications

- Bidgoli, T. S., Amir, E., Walker, J. D., Stockli, D. F., Andrew, J. E., and Caskey, J. S., 2015, Low-temperature thermochronology of the Black and Panamint mountains, Death Valley, CA: Implications for geodynamic controls on Cenozoic intraplate strain: *Lithosphere*, v. 8. doi:10.1130/L406.
- Bidgoli, T. S., Stockli, D. F., and Walker, J. D., 2015, Low-temperature thermochronologic constraints on the kinematic histories of the Castle Cliffs, Tule Springs, and Mormon Peak detachments, southeastern Nevada and southwestern Utah: *Geosphere*, v. 11. doi:10.1130/GES01083.1.
- Cramer, B. D., Vandenbroucke, T. R. A., and Ludvigson, G. A., 2015, High-Resolution Event Stratigraphy (HiRES) and the quantification of stratigraphic uncertainty: Silurian examples of the quest for precision in stratigraphy: *Earth Science Reviews*, v. 141, p. 136–153. <http://dx.doi.org/10.1016/j.earscirev.2014.11.011>.
- Johnson, B. G., Layzell, A. L., and Eppes, M. C., 2015, Chronosequence development and soil variability from a variety of sub-alpine, post-glacial landforms and deposits in the southeastern San Juan Mountains of Colorado: *Catena*, v. 127, p. 222–239.
- Kraus, M. J., Woody, D. T., Smith, J. J., and Dukic, V., 2015, Alluvial response to the Paleocene-Eocene Thermal Maximum climatic event, Polecat Bench, Wyoming (U.S.A.): *Palaeogeography, Palaeoclimatology, Palaeoecology*. doi: 10.1016/j.palaeo.2015.06.021.
- Layzell, A. L., Mandel, R. D., Ludvigson, G. A., Rittenour, T. M., and Smith, J. J., 2015, Forces driving late Pleistocene (ca. 77–12 ka) landscape evolution in the Cimarron River valley, southwestern Kansas: *Quaternary Research*, v. 84, p. 106–117. <http://dx.doi.org/10.1016/j.yqres.2015.05.003>.
- Ludvigson, G. A., Joeckel, R. M., Murphy, L. R., Stockli, D. F., González, L. A., Suarez, C. A., Kirkland, J. I., and Al-Suwaidi, A., 2015, The emerging terrestrial record of Aptian-Albian global change: *Cretaceous Research*, v. 56, p. 1–24. <http://dx.doi.org/10.1016/j.cretres.2014.11.008>.
- Meixner, T., Manning, A. H., Stonestrom, D., Ajami, H., Allen, D. M., Blasch, K., Brookfield, A., Castro, C. L., Clark, J. F., Gochis, D., Flint, A., Neff, K., Niraula, R., Rodell, M., Scanlon, B., Singha, K., and Walvoord, M., 2015, Implications of projected climate change for groundwater recharge in the western United States: *Journal of Hydrology*, v. 534, p. 124–138.
- Ortega-Ariza, D., Franseen, E. K., Santos-Mercado, H., Ramirez-Martinez, W. R., and Core-Suarez, E. E., 2015, Strontium-isotope stratigraphy for Oligocene-Miocene carbonate systems in Puerto Rico and The Dominican Republic: Implications for Caribbean processes affecting depositional history: *The Journal of Geology*, v. 123, p. 539–560.
- Parsekian, A., Dlubac, K., Grunewald, E., Butler, J. J., Jr., Knight, R., and Walsh, D. O., 2015, Bootstrap calibration and uncertainty estimation of downhole NMR hydraulic conductivity estimates in an unconsolidated aquifer: *Groundwater*, v. 53, no. 1, p. 111–121.
- Ramaker, E. M., Goldstein, R. H., Franseen, E. K., and Watney, W. L., 2015, What controls porosity in cherty fine-grained carbonate reservoir rocks? Impact of stratigraphy, unconformities, structural setting and hydrothermal fluid flow: Mississippian, SE Kansas; *in*, *Fundamental Controls on Fluid Flow in Carbonates*, S. M. Agar and S. Geiger, eds.: Geological Society, London, Special Publications, 406 p.
- Shrout, J. D., and Newell, K. D., 2015, Production declines of Kansas coalbed methane wells as a function of their production rate and age: *Transactions of the Kansas Academy of Science*, v. 118, no. 1–2, p. 119–131.
- Smith, J. J., Platt, B. F., Ludvigson, G. A., Sawin, R. S., Marshall, C. P., and Olcott-Marshall, A., 2015, Enigmatic red beds exposed at Point of Rocks, Cimarron National Grassland, Morton County, Kansas: Chronostratigraphic constraints from uranium-lead dating of detrital zircons: *Kansas Geological Survey, Current Research in Earth Sciences, Bulletin 261*, 17 p., 1 appendix. <http://www.kgs.ku.edu/Current/2015/Smith/index.html>.
- Stolz, D. J., Franseen, E. K., and Goldstein, R. H., 2015, Character of the Avalon Shale (Bone Spring Formation) of the Delaware Basin, West Texas and Southeast New Mexico: Effect of carbonate-rich sediment gravity flows: *Unconventional Resources Technology Conference (URTeC) Conference Proceedings*, Paper 2154681, 6 p.
- Stotler, R. L., Whittemore, D. O., Smith, J. J., Katz, B. S., Yoerg, A., Butler, J. J., Jr., Ludvigson, G. A., and Hirmas, D. R., 2015, Isotopic composition of the Ogallala–High Plains aquifer and vadose zone: *Procedia Earth and Planetary Science*, v. 13, p. 39–42. doi:10.1016/j.proeps.2015.07.009.

## Nonrefereed Publications

- Bennett, B. B., and Brohammer, M. C., 2015, 2015 water level data acquisition statistics: Kansas Geological Survey, Open-File Report 2015-34, 19 p. [http://www.kgs.ku.edu/Hydro/Publications/2015/OFR15\\_34/index.html](http://www.kgs.ku.edu/Hydro/Publications/2015/OFR15_34/index.html).
- Bidgoli, T. S., Stockli, D. F., and Walker, J. D., 2015, Beaver Dam Mountains–Tule Springs Hills–Mormon Mountains thermochronology: Integrated Earth Data Applications (IEDA). doi:10.1594/IEDA/100520.
- Brookfield, A., and Wilson, B., 2015, Integrated groundwater/surface water model for the Lower Republican River Basin, Kansas: A progress report: Kansas Geological Survey, Open-File Report 2015-1, 27 p. [http://www.kgs.ku.edu/Hydro/Publications/2015/OFR15\\_1/index.html](http://www.kgs.ku.edu/Hydro/Publications/2015/OFR15_1/index.html)
- Brookfield, A., and Gnau, C., 2015, Integrated groundwater/surface water model for the Lower Republican River Basin, Kansas: Technical report for U.S. Bureau of Reclamation, 43 p.
- Brookfield, A., and Gnau, C., 2015, Republican River Basin Study—Kansas modeling results tech memo: Technical report for U.S. Bureau of Reclamation, 31 p.
- Buchanan, R. C., Newell, K. D., Evans, C. S., Miller R. D., and Peterie, S. L., (2014) 2015, Induced seismicity—The potential for triggered earthquakes in Kansas: Kansas Geological Survey, Public Information Circular 36, 6 p.
- Buchanan, R. C., Wilson, B., B., Buddemeier, R. R., and Butler, J. J., Jr., (2001, 2009) 2015, The High Plains aquifer: Kansas Geological Survey Public Information Circular 18, 6 p.
- Butler, J. J., Jr., Whittemore, D. O., Reboulet, E., Knobbe, S., Wilson, B. B., Stotler, R. L., and Bohling, G. C., 2015, High Plains aquifer index well program: 2014 annual report, Kansas Geological Survey Open-File Report 2015-3, 135 p.
- Dunham, J. W., 2015, Flint Hills with prairie areas: Flint Hills Maps in Schools Committee.
- Fazelalavi, M., 2015, Drainage capillary pressure curves in Arbuckle: Kansas Geological Survey, Open-File Report 2015-23, 8 p. [http://www.kgs.ku.edu/Publications/OFR/2015/OFR2015\\_23.pdf](http://www.kgs.ku.edu/Publications/OFR/2015/OFR2015_23.pdf).
- Fazelalavi, M., 2015, Fracture pressure in Arbuckle based on step-rate test: Kansas Geological Survey, Open-File Report 2015-19, 4 p. [http://www.kgs.ku.edu/Publications/OFR/2015/OFR2015\\_19.pdf](http://www.kgs.ku.edu/Publications/OFR/2015/OFR2015_19.pdf).
- Fazelalavi, M., 2015, Initial pressure in the Mississippian: Kansas Geological Survey, Open-File Report 2015-22, 7 p. [http://www.kgs.ku.edu/Publications/OFR/2015/OFR2015\\_22.pdf](http://www.kgs.ku.edu/Publications/OFR/2015/OFR2015_22.pdf)
- Fazelalavi, M., 2015, Permeability from NMR log of Well 1-32, Arbuckle Formation, Wellington Field (Rev 1): Kansas Geological Survey, Open-File Report 2015-24, 17 p. [http://www.kgs.ku.edu/Publications/OFR/2015/OFR2015\\_24.pdf](http://www.kgs.ku.edu/Publications/OFR/2015/OFR2015_24.pdf).
- Fazelalavi, M., 2015, Small scale CO<sub>2</sub>-EOR in the Mississippian at Wellington Field, Sumner County, Kansas: Kansas Geological Survey, Open-File Report 2015-21, 15 p. [http://www.kgs.ku.edu/Publications/OFR/2015/OFR2015\\_21.pdf](http://www.kgs.ku.edu/Publications/OFR/2015/OFR2015_21.pdf).
- Fazelalavi, M., 2015, Step-rate test in the Mississippian Reservoir in the Wellington Field: Kansas Geological Survey, Open-File Report 2015-32, 16 p. [http://www.kgs.ku.edu/Publications/OFR/2015/OFR15\\_32/index.html](http://www.kgs.ku.edu/Publications/OFR/2015/OFR15_32/index.html).
- Fazelalavi, M., 2015, Step-rate test, interference test results and DST results in Wellington: Kansas Geological Survey, Open-File Report 2015-20, 12 p. [http://www.kgs.ku.edu/Publications/OFR/2015/OFR2015\\_20.pdf](http://www.kgs.ku.edu/Publications/OFR/2015/OFR2015_20.pdf).
- Fazelalavi, M., 2015, The relation between vertical and horizontal permeability, Arbuckle Formation, Wellington Field: Kansas Geological Survey, Open-File Report 2015-25, 4 p. [http://www.kgs.ku.edu/Publications/OFR/2015/OFR2015\\_25.pdf](http://www.kgs.ku.edu/Publications/OFR/2015/OFR2015_25.pdf).
- Fazelalavi, M., Fazelalavi, M., and Fazelalavi, M., 2015, Wellington Field, Mississippian Formation, preliminary reservoir description: Kansas Geological Survey, Open-File Report 2015-26, 75 p. [http://www.kgs.ku.edu/Publications/OFR/2015/OFR2015\\_26.pdf](http://www.kgs.ku.edu/Publications/OFR/2015/OFR2015_26.pdf).
- Johnson, W. C., and Koop, A. N., 2015, Preliminary surficial geology of the Chase quadrangle, Rice County, Kansas: Kansas Geological Survey, Open-File Report 2015-8, 1 sheet, scale 1:24,000. [http://www.kgs.ku.edu/Publications/OFR/GeoMaps/KsGS\\_OFR2015-8\\_Chase.pdf](http://www.kgs.ku.edu/Publications/OFR/GeoMaps/KsGS_OFR2015-8_Chase.pdf).
- Johnson, W. C., and Koop, A. N., 2015, Preliminary surficial geology of the Rice County portion of the Alden NW quadrangle, Kansas: Kansas Geological Survey, Open-File Report 2015-6, 1 sheet, scale 1:24,000. [http://www.kgs.ku.edu/Publications/OFR/GeoMaps/KsGS\\_OFR2015-6\\_Alden\\_NW.pdf](http://www.kgs.ku.edu/Publications/OFR/GeoMaps/KsGS_OFR2015-6_Alden_NW.pdf).
- Johnson, W. C., and Koop, A. N., 2015, Preliminary surficial geology of the Rice County portion of the Alden quadrangle, Kansas: Kansas Geological Survey, Open-File Report 2015-5, 1 sheet, scale 1:24,000. [http://www.kgs.ku.edu/Publications/OFR/GeoMaps/KsGS\\_OFR2015-5\\_Alden.pdf](http://www.kgs.ku.edu/Publications/OFR/GeoMaps/KsGS_OFR2015-5_Alden.pdf).
- Johnson, W. C., and Koop, A. N., 2015, Preliminary surficial geology of the Rice County portion of the Chase NW and Holyrood quadrangles, Kansas: Kansas Geological Survey, Open-File Report 2015-9, 1 sheet, scale 1:24,000. [http://www.kgs.ku.edu/Publications/OFR/GeoMaps/KsGS\\_OFR2015-9\\_ChaseNW\\_Holyrood.pdf](http://www.kgs.ku.edu/Publications/OFR/GeoMaps/KsGS_OFR2015-9_ChaseNW_Holyrood.pdf).

- Johnson, W. C., and Koop, A. N., 2015, Preliminary surficial geology of the Rice County portion of the Sterling quadrangle, Kansas: Kansas Geological Survey, Open-File Report 2015-10, 1 sheet, scale 1:24,000. [http://www.kgs.ku.edu/Publications/OFR/GeoMaps/KsGS\\_OFR2015-10\\_Sterling.pdf](http://www.kgs.ku.edu/Publications/OFR/GeoMaps/KsGS_OFR2015-10_Sterling.pdf).
- Ludvigson, G. A., González, L. A., and Layzell, A. L., 2015, Stable isotopic studies on core samples from the Cold Lake property: Report to Cold Lake Geoscience, Imperial, Canada, and the Alberta Energy Regulator Core Research Centre.
- Mandel, R. D., and Newell, K. D., 2015, Preliminary surficial geology of the Paola East quadrangle, Miami County, Kansas: Kansas Geological Survey, Open-File Report 2015-11, 1 sheet, scale 1:24,000. [http://www.kgs.ku.edu/Publications/OFR/GeoMaps/KsGS\\_OFR2015-11\\_PaolaEast.pdf](http://www.kgs.ku.edu/Publications/OFR/GeoMaps/KsGS_OFR2015-11_PaolaEast.pdf).
- Mandel, R. D., and Newell, K. D., 2015, Preliminary surficial geology of the Paola West quadrangle, Miami County, Kansas: Kansas Geological Survey, Open-File Report 2015-12, 1 sheet, scale 1:24,000. [http://www.kgs.ku.edu/Publications/OFR/GeoMaps/KsGS\\_OFR2015-12\\_PaolaWest.pdf](http://www.kgs.ku.edu/Publications/OFR/GeoMaps/KsGS_OFR2015-12_PaolaWest.pdf).
- Parcell, W. C., Sinclair, J. T., and Lahey, M. L., 2015, Preliminary surficial geology of the Sedgwick County portion of the Greenwich quadrangle, Kansas: Kansas Geological Survey, Open-File Report 2015-13, 1 sheet, scale 1:24,000. [http://www.kgs.ku.edu/Publications/OFR/GeoMaps/KsGS\\_OFR2015-13\\_Greenwich.pdf](http://www.kgs.ku.edu/Publications/OFR/GeoMaps/KsGS_OFR2015-13_Greenwich.pdf).
- Parcell, W. C., Sinclair, J. T., and Lahey, M. L., 2015, Preliminary surficial geology of the Valley Center quadrangle, Sedgwick County, Kansas: Kansas Geological Survey, Open-File Report 2015-14, 1 sheet, scale 1:24,000. [http://www.kgs.ku.edu/Publications/OFR/GeoMaps/KsGS\\_OFR2015-14\\_ValleyCenter.pdf](http://www.kgs.ku.edu/Publications/OFR/GeoMaps/KsGS_OFR2015-14_ValleyCenter.pdf).
- Sawin, R. S., 2015, Copies of archived correspondence pertinent to the decision to classify the exposure at Point of Rocks, Morton County, Kansas, as Jurassic by the Kansas Geological Survey in 1967: Kansas Geological Survey, Open-File Report 2015-2, 11 p. [http://www.kgs.ku.edu/Publications/OFR/2015/OFR15\\_2/index.html](http://www.kgs.ku.edu/Publications/OFR/2015/OFR15_2/index.html).
- Sawin, R. S., Evans, C. S., and Dunham, J. W., 2015, Kansas Geologic Maps: Kansas Geological Survey, Public Information Circular 38, 6 p. <http://www.kgs.ku.edu/Publications/PIC/pic38.html>.
- Smith, J. J., 2015, Preliminary surficial geology of the Haskell County portion of the Wild Horse Lake quadrangle, Kansas: Kansas Geological Survey, Open-File Report 2015-17, 1 sheet, scale 1:24,000. [http://www.kgs.ku.edu/Publications/OFR/GeoMaps/KsGS\\_OFR2015-17\\_WildHorseLake.pdf](http://www.kgs.ku.edu/Publications/OFR/GeoMaps/KsGS_OFR2015-17_WildHorseLake.pdf).
- Smith, J. J., 2015, Preliminary surficial geology of the Haskell County portion of the West of Wild Horse Lake quadrangle, Kansas: Kansas Geological Survey, Open-File Report 2015-16, 1 sheet, scale 1:24,000. [http://www.kgs.ku.edu/Publications/OFR/GeoMaps/KsGS\\_OFR2015-16\\_W\\_of\\_WildHorseLake.pdf](http://www.kgs.ku.edu/Publications/OFR/GeoMaps/KsGS_OFR2015-16_W_of_WildHorseLake.pdf).
- Smith, J. J., 2015, Preliminary surficial geology of the Haskell County portion of the Hickock NE quadrangle, Kansas: Kansas Geological Survey, Open-File Report 2015-15, 1 sheet, scale 1:24,000. [http://www.kgs.ku.edu/Publications/OFR/GeoMaps/KsGS\\_OFR2015-15\\_Hickok\\_NE.pdf](http://www.kgs.ku.edu/Publications/OFR/GeoMaps/KsGS_OFR2015-15_Hickok_NE.pdf).
- Stover, S., and Evans, C. S., 2015, East-Central Kansas—Managing resources for economic growth and the environment, 2015 Kansas Field Conference guide: Kansas Geological Survey, Open-File Report 2015-4, 72 p. [http://www.kgs.ku.edu/Field/Reports/KGS\\_OF\\_2015-4.pdf](http://www.kgs.ku.edu/Field/Reports/KGS_OF_2015-4.pdf).
- Stover, S., and Sawin, B., 2015, Geology, fossils and ecology of Northeastern Kansas: Association of Earth Science Editors, Field Trip Guidebook, 49<sup>th</sup> Annual Meeting, October 6–9, 2015, Lawrence, Kansas.
- Suchy, D. R., (2002) 2015, The public land survey system in Kansas: Kansas Geological Survey, Public Information Circular 20, 4 p., reproduced in The Kansas Lifeline, March 2015, p. 67–70.
- Suchy, D., Stewart, D., and Dealy, M., 2015, Kansas oil, gas, and water well geologic data, records, and samples preservation, FY2014 final report, 2014 USGS NGGDPP grant.
- Victorine, J. R., 2015, computing the location of a shallow seismic event: Kansas Geological Survey, Open-File Report 2015-18, 7 p. [http://www.kgs.ku.edu/Publications/OFR/2015/OFR15\\_18/OFR2015-18.pdf](http://www.kgs.ku.edu/Publications/OFR/2015/OFR15_18/OFR2015-18.pdf).
- Wilson, B. B., Liu, G., Bohling, G. C., Whittemore, D. O., and Butler, J. J., Jr., 2015, West-central Kansas GMD1 model, Kansas Water Office Contract 14-116: Kansas Geological Survey, Open-File Report 2015-33, 141 p. [http://www.kgs.ku.edu/Hydro/Publications/2015/OFR15\\_33/index.html](http://www.kgs.ku.edu/Hydro/Publications/2015/OFR15_33/index.html).

## Abstracts

- Alves, V. A., Buynevich, I. V., Hembree, D. I., Smith, J. J., and Platt, B. F., 2015, Signal polarity trends in georadar images of mammal burrow networks in a heterogeneous mountain slope regolith: Geological Society of America, Abstracts with Programs, v. 47, no. 7, p. 343.
- Bidgoli, T. S., FazelAlavi, M., and Holubnyak, Y., 2015, Reservoir-geomechanical analysis of fluid injection in the Arbuckle saline aquifer, south-central Kansas: Groundwater Protection Council Annual Forum.



- Bidgoli, T. S., Holubnyak, Y., and FazelAlavi, M., 2015, Evaluating potential for induced seismicity through reservoir-geomechanical analysis of fluid injection in the Arbuckle saline aquifer, south-central Kansas: AAPG Datapages/Search and Discovery Article #90216.
- Bidgoli, T. S., Schwab, D. R., Watney, W. L., and Gerlach, P., 2015, Subsurface faults and present-day stresses in southern Kansas: Implications for brine disposal and long-term storage of CO<sub>2</sub>: AAPG Datapages/Search and Discovery Article #90221.
- Birdie, T., Watney, W. L., Bidgoli, T. S., Fazelalavi, M., and Holubnyak, E., 2015, Assessing induced seismicity risk associated with CO<sub>2</sub> geologic sequestration: GSA Abstracts with Programs, v. 47, no. 1, p. 12.
- Bohling, G. C., Liu, G., and Butler, J. J., Jr., 2015, Reassessing the MADE direct-push hydraulic conductivity data using an improved calibration procedure (abstract), Proceedings of NovCare 2015, p. 66.
- Brookfield, A., and Gnau, C., 2015, Simulating the effects of climate change and water management strategies on water availability in the Lower Republican River Basin: Presentation with abstract, AEG Kansas Hydrology Seminar, Topeka, Kansas, November 20.
- Brookfield, A., and Gnau, C., 2015, Simulating integrated water management for irrigation in the Lower Republican River Basin, Kansas: Presentation with abstract, IAH-CNC 2015, Waterloo, Ontario, Canada, October 27–30.
- Brookfield, A., Reboulet, E., and Wilson, B. B., 2015, Characterizing temporal variability at the groundwater/surface water interface: Presentation with abstract, NovCare 2015, Lawrence, Kansas, May 19–21.
- Brookfield, A., Reboulet, E., and Wilson, B., 2015, Variability of groundwater/surface water interactions along the Arkansas River: Presentation with abstract, Governor's Conference on the Future of Water in Kansas, Manhattan, Kansas, November 18–19.
- Butler, J. J., Jr., Whittemore, D. O., and Wilson, B. B., 2015, A new approach for assessing aquifer sustainability and the impact of proposed management actions, Abstract H21B-1366 presented at 2015 Fall Meeting, American Geophysical Union, December 15, San Francisco.
- Butler, J. J., Jr., Liu, G., Knobbe, S., Reboulet, E., Bohling, G. C., and Walsh, D. O., 2015, Recent advances in hydrogeologic characterization of the shallow subsurface using direct-push technology, Abstract 48281 presented at the AGU Chapman Conference: The MADE Challenge for Groundwater Transport in Highly Heterogeneous Aquifers: Insights from 30 Years of Modeling and Characterization at the Field Scale and Promising Future Directions, October 6, Valencia, Spain.
- Butler, J. J., Jr., and Reboulet, E., 2015, Aquifer characterization by continuous monitoring of groundwater levels: Examples from the High Plains aquifer (abstract), Proceedings of NovCare 2015, p. 59.
- Buynevich, I. V., Hembree, D. I., Smith, J. J., and Platt, B. F., 2015, Georadar characterization of bioturbation structures in contrasting soil-geomorphic biotopes, southern Arizona: Geological Society of America, Abstracts with Programs, v. 47, no. 7, p. 342.
- Core, E. E., Ramirez, W., Ortega-Ariza, D., Santos-Mercado, H., and Franseen, E. K., 2015, Estratigrafía secuencial del sistema mixto de carbonatos y siliciclasticos Neogeno en el Parque Nacional Los Haitises, Noreste Republica Dominicana; *in*, Programa y libro de resúmenes del XI Congreso Internacional de Investigación Científica, P. F. Gómez-Ramírez, C. M. Rodríguez-Peña and Sixto J. Incháustegui, eds.: Santo Domingo, República Dominicana, p. 220.
- Fazelalavi, M., Fazelalavi, F., and Fazelalavi, M., 2015, A novel technique for generation of accurate capillary pressure (Pc) curves from conventional logs and routine core data and new Pc endpoint functions after considering the sedimentary environment and pore size distribution shape (PSDS): International Petroleum Technology Conference, Doha, Qatar, December 6, 2015.
- Fazelalavi, M., Fazelalavi, M., and Fazelalavi, M., 2015, Inaccuracy of end points of CO<sub>2</sub> relative permeability curves, adverse effect of low capillary pressure during testing, and proposed solution (new core holder to boost capillary pressure): SPE, Annual Technical Conference and Exhibition, Houston, Texas, September 28, 2015.
- Field, H. L., Ludvigson, G. A., Möller, A., Joeckel, R. M., and Stotler, R. L., 2015, Chronostratigraphic interpretations of Cenozoic paleosols in Nebraska using integrated U-Pb dating and carbon isotope chemostratigraphy: Geological Society of America, Abstracts with Programs, v. 47, no. 7, p. 595.
- Gnau, C., and Brookfield, A., 2015, Evaluating future water management strategies in the Lower Republican River Basin: Presentation with abstract, Governor's Conference on the Future of Water in Kansas, Manhattan, Kansas, November 18–19.
- Guelard, J., Beaumont, V., Goyot, F., Deville, E., and Newell, K., 2015, Origin and fate of natural H<sub>2</sub> occurrences in a saline sedimentary aquifer: V. M. Goldschmidt Conference, Prague, Czech Republic, Program and Abstracts, v. 25, p. 237.

- Hallman, J. A., Moller, A., McLean, N., Ludvigson, G. A., Smith, J. J., and Sitek, B. C., 2015, Paleosols and volcanic ashes as marker beds in the Ogallala Formation, western Kansas: Geological Society of America, Abstracts with Programs, v. 47, no. 7, p. 595.
- Hembree, D. I., Smith, J. J., Buynevich, I. V., and Platt, B. F., 2015, Neoichnology of semiarid environments: Soils and burrowing organisms of the Sonoran Desert: Geological Society of America, Abstracts with Programs, v. 47, no. 7, p. 424.
- Hendrix, B., Möller, A., Ludvigson, G. A., Joeckel, R. M., and Kirkland, 2015, A new approach to date paleosols in terrestrial strata: A case study using U-Pb zircon ages for the Yellow Cat Member of the Cedar Mountain Formation of eastern Utah: Geological Society of America, Abstracts with Programs, v. 47, no. 7, p. 597.
- Holubnyak, Y., Bidgoli, T., and Watney, L., 2015, Evaluating risks of induced seismicity for CO<sub>2</sub> geological storage in the Arbuckle saline aquifer, south-central Kansas: 14th Annual Conference on Carbon Capture Utilization & Storage, 28 April–1 May 2015, Pittsburgh, Pennsylvania.
- Holubnyak, Y., FazelAlavi, M., Bidgoli, T., and Watney, L., 2015, Permeability estimations for Arbuckle Formation in south central and southwestern Kansas: AAPG Datapages/Search and Discovery Article #90216.
- Holubnyak, Y., FazelAlavi, M., Rush, J., and Watney, L., 2015, Pilot scale CO<sub>2</sub> EOR project in upper Mississippian formation at Wellington Field in southern Kansas: AAPG Mid-Continent Section Meeting, 4–6 October 2015, Tulsa, Oklahoma.
- Holubnyak, Y., and Watney, L., 2015, Mississippian CO<sub>2</sub>-EOR: Kansas Independent Oil and Gas Association, CO<sub>2</sub>-EOR Applications for Kansas Operators, Wichita, Kansas, August 2, 2015.
- Holubnyak, Y., Watney, L., Bidgoli, T., Doveton, J., Fazelalavi, M., Hollenbach, J., Newell, K. D., and Birdie, T., 2015, Update on induced seismicity studies by the Kansas Geological Survey: Kansas Geological Society, Wichita, Kansas, December, 9, 2015.
- Holubnyak, Y., Watney, L., FazelAlavi, M., Rush, J., Bidgoli, T., Williams, E., and Gerlach, P., 2015, Modeling potential scenarios for induced seismicity in Arbuckle Group saline aquifer in southern Kansas: AAPG Mid-Continent Section Meeting, 4–6 October 2015, Tulsa, Oklahoma.
- Holubnyak, Y., Watney, L., FazelAlavi, M., Rush, J., Bidgoli, T., Williams, E., Gerlach, P., and Datta, S., 2015, Regional assessment of reservoir properties and waste disposal modeling for the Arbuckle Group in south-central and southwestern Kansas: AAPG Datapages/Search and Discovery Article #90242.
- Holubnyak, Y., Williams, E., FazelAlavi, M., Gerlach, P., and Bidgoli, T. S., 2015, Regional CO<sub>2</sub> storage capacity estimations for the Arbuckle saline aquifer in south-central and southwestern Kansas: AAPG Datapages/Search and Discovery Article #80486.
- Holubnyak, Y., Williams, E., Watney, L., FazelAlavi, M., Rush, J., Bidgoli, T., and Gerlach, P., 2015, CO<sub>2</sub> storage capacity estimations for Arbuckle saline aquifer in south-central and south-western Kansas: 14th Annual Conference on Carbon Capture Utilization & Storage, 28 April–1 May 2015, Pittsburgh, Pennsylvania.
- Holubnyak, Y., Williams, E., Watney, L., FazelAlavi, M., Rush, J., Bidgoli, T., and Gerlach, P., 2015, Regional CO<sub>2</sub> storage capacity estimations for Arbuckle saline aquifer in south central and southwestern Kansas: AAPG Annual Convention and Exhibition, 31 May–3 June 2015, Denver, Colorado.
- Knobbe, S., Liu, G., and Butler, J. J., Jr., 2015, Laboratory investigation of distributed temperature sensing to characterize groundwater flux aquifer (abstract), Proceedings of NovCare 2015, p. 80.
- Korus, J. T., Joeckel, R. M., Ludvigson, G. A., Smith, J. J., and Abraham, J. D., 2015, Geologic investigations of the northern High Plains aquifer: Historical review and recent advances: University of Nebraska-Lincoln Water Conference, March 19, 2015.
- Kraus, M. J., Woody, D., and Smith, J. J., 2015, Alluvial response to climate change at the Paleocene-Eocene Thermal Maximum (PETM), Bighorn Basin, Wyoming: American Association of Petroleum Geologists Annual Convention, Official Program Abstracts.
- Layzell, A. L., Harlow, R. H., Ludvigson, G. A., Mandel, R. D., and Smith, J. J., 2015, Major element and isotope geochemistry from late Quaternary paleosols in southwestern Kansas: Assessing climate and parent material change: Geological Society of America, Abstracts with Programs, v. 47, no. 7, p. 596.
- Liu, G., Knobbe, S., and Butler, J. J., Jr., 2015, Groundwater flux characterization using distributed temperature sensing: Separating advection from thermal conduction, Abstract NS52A-02 presented at 2015 Fall Meeting, American Geophysical Union, December 18, San Francisco, California.
- Ludvigson, G. A., González, L. A., Joeckel, R. M., and Möller, A., 2015, Terrestrial carbonate records of Cretaceous (Aptian-Albian) carbon isotope excursions from deposits in North America and China: Geological Society of America, Abstracts with Programs, v. 47, no. 7, p. 173.
- Ludvigson, G. A., González, L. A., Möller, A., Suarez, M. B., Kirkland, J. I., and You, H. L., 2015, Terrestrial paleoclimatic expression of Aptian-Albian carbon isotope excursions: Abstract Volume, International

- Workshop on Climate and Environmental Evolution in the Mesozoic Greenhouse World and 3<sup>rd</sup> IGCP 609 Workshop on Cretaceous Sea-Level Change, Nanjing University, Nanjing, China, September 5–11, 2015, p. 34.
- Mandel, R. D., Goldberg, P., Layzell, A. L., and Hass, J. R., 2015, Unraveling the site formation process at Finch (47JE0902): A multicomponent habitation in southeastern Wisconsin: 80<sup>th</sup> Annual Meeting of the Society for American Archaeology, San Francisco, California.
- Miller, R., Peterie, S., Bidgoli, T., Fontana, J., Watney, W. L., and Buchanan, R., 2015, Elevated seismicity in southern Kansas: Symposium on the Application of Geophysics to Environmental and Engineering Problems 2015, p. 294–305.
- Myers, M., Kamola, D., Ludvigson, G. A., and Walker, J. D., 2015, Implications for large-scale shoreline translation in the Turonian Western Interior Seaway: Evidence from the Codell Sandstone, Colorado: AAPG Annual Convention & Exhibition, Denver, Colorado, May 31–June 3, 2015, Official Program Abstracts CD, Abstract No. 2104488.
- Oborny, S. C., Ludvigson, G. A., Henthorne, R., Heckel, P., and Cramer, B., 2015, Depositional build-and-fill within the Zarah subgroup (Upper Pennsylvanian, Missourian Stage) of Miami County, Kansas: Integrated lithostratigraphy,  $\delta^{13}\text{C}_{\text{carb}}$  chemostratigraphy, and geophysical well-log data: Geological Society of America, Abstracts with Programs, v. 47, no. 7, p. 652.
- Ortega-Ariza, D., and Franseen, E. K., 2015, Regional upwelling as a major control in development of a Miocene heterozoan-dominated carbonate system in a tropical setting, Puerto Rico: AAPG Annual Meeting, Denver, Colorado.
- Ortega-Ariza, D., Franseen, E. K., Santos-Mercado, H., Ramirez-Martinez, W., and Core-Suarez, E., 2015, Strontium-isotope Stratigraphy for Oligocene-Miocene carbonate systems in Puerto Rico and Dominican Republic: Implications for Caribbean processes affecting depositional history: STRATI 2015, 2<sup>nd</sup> International Congress on Stratigraphy, Graz, Austria, July 19–23.
- Peterie, S. L., Miller, R. D., Intfen, J., Bidgoli, T., and Buchanan, R., 2015, A geologically based approach to mitigate potentially induced seismicity in Kansas: SEG Technical Program Expanded Abstracts 2015, p. 4,871–4,876.
- Platt, B. F., Smith, J. J., Ludvigson, G. A., and Thomasson, J. R., 2015, Making a mountain out of an anthill: Ancient hymenopteran influence on calcrete outcrop expression, Neogene Ogallala Formation, western Kansas, USA: The American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America Joint International Annual Meetings, Minneapolis, Minnesota, November 15–18, 2015.
- Pugliano, T. M., Goldstein, R. H., and Franseen, E. K., 2015, Fundamental reservoir units of heterozoan carbonates: Sedimentologic and reservoir properties of shoaling- and fining-upward cycles: AAPG Annual Meeting, Denver, Colorado.
- Ross, J. B., Ludvigson, G. A., González, L. A., Möller, A., and Walker, J. D., 2015, Stable isotope paleohydrology of pedogenic carbonates from the wedge-top depozone of the North American Sevier orogenic belt: Abstract Volume, International Workshop on Climate and Environmental Evolution in the Mesozoic Greenhouse World and 3<sup>rd</sup> IGCP 609 Workshop on Cretaceous Sea-Level Change, Nanjing University, Nanjing, China, p. 41–42.
- Ross, J. B., Ludvigson, G. A., González, L. A., and Walker, J. D., 2015, Stable isotope paleohydrology of pedogenic carbonates in the Wayan and Blackleaf formations (mid-Cretaceous) of Idaho and Montana: AAPG Annual Convention & Exhibition, Denver, Colorado, May 31–June 3, 2015, Official Program Abstracts CD, Abstract No. 2090617.
- Ross, J. B., Ludvigson, G. A., Möller, A., and Walker, D., 2015, Stable isotope paleohydrology of pedogenic carbonates in the Wayan and Blackleaf formations (mid-Cretaceous) of Idaho and Montana: Geological Society of America, Abstracts with Programs, v. 47, no. 7, p. 718.
- Schwab, D., Bidgoli, T., and Taylor, M., 2015, Characterizing CO<sub>2</sub> injection using subsurface structural mapping and stress field analysis, cGPS, and InSAR, Wellington Field, Sumner County, KS: Kansas Environmental Conference, August 17–20, Topeka, Kansas.
- Schwab, D. R., Bidgoli, T. S., Taylor, M. H., and Stearns, L. A., 2015, Characterizing the potential for fault reactivation related to CO<sub>2</sub> injection through subsurface structural mapping and stress field analysis, Wellington Field, Sumner County, KS: Abstract S13B-2822 presented at the 2015 fall meeting
- Schwab, D. R., Bidgoli, T. S., Taylor, M. H., and Stearns, L. A., 2015, Determining the risk for induced seismicity associated with pilot-scale CO<sub>2</sub> injection at Wellington Field, Sumner County, Kansas: GSA Abstracts with Programs, v. 47, p. 80.
- Smith, J. J., Hembree, D. I., Buynevich, I. V., and Platt, B. F., 2015, Neoichnology and pedology of montane soils in the Santa Catalina mountains, southern Arizona: Geological Society of America, Abstracts with Programs, v. 47, no. 7, p. 425.

- Smith, J. J., Ludvigson, G. A., Doveton, J., Layzell, A., Stotler, R. L., Möller, A., and Rittenour, T. M., 2015, A scientific drilling program in the Cenozoic strata of the High Plains aquifer: Sedimentologic and hydrostratigraphic characterization of cored sediments from the Ogallala Formation: NovCare 2015, Lawrence, Kansas, May 18–21, 2015.
- Smith, J. J., Platt, B. F., Ludvigson, G. A., Sawin, R. S., Marshall, C. P., and Marshall, A. O., 2015, Chronostratigraphic assessment of enigmatic redbeds at Point of Rocks, Cimarron National Grassland, Kansas: U-Pb age constraints from detrital zircons: Geological Society of America, Abstracts with Programs, v. 47, no. 7, p. 803.
- Stolz, D. J., Franseen, E. K., and Goldstein, R. H., 2015, Character of the Avalon Shale (Bone Spring Formation) of the Delaware Basin, West Texas and Southeast New Mexico: Effect of carbonate-rich sediment gravity flows: Unconventional Resources Technology Conference (URTeC), San Antonio, Texas, June 19–22.
- Stotler, R. L., Katz, B. S., Whittemore, D. O., Butler, J. J., Jr., Ludvigson, G. A., Smith, J. J., and Hirmas, D. R., 2015, Implications of a falling water table for recharge estimations through a thick vadose zone beneath an irrigated field: International Association of Hydrogeologists-Canadian National Chapter Meeting, Waterloo, Ontario, October 27–30, 2015.
- Sweeney, R. J., Goldstein, R. H., and Franseen, E. K., 2015, Platform controls on basin sedimentation: The role of paleotopography and relative sea level, La Rellana Platform and Agua Amarga Basin, Cabo de Gata, Southeast Spain: AAPG Annual Meeting, Denver, Colorado.
- Turner, E., Smith, J. J., Ludvigson, G. A., Layzell, A. L., and Moller, A., 2015, Maximum depositional age constraints from U-Pb dating of zircons in Cenozoic deposits of the High Plains aquifer, southwestern Kansas: Geological Society of America, Abstracts with Programs, v. 47, no. 7, p. 801.
- Whittemore, D. O., Butler, J. J., Jr., and Wilson, B. B., 2015, Prediction of water-level changes and water use in the High Plains aquifer from radar precipitation, Abstract H14B-04 presented at 2015 Fall Meeting, American Geophysical Union, December 14, San Francisco, California.

## **Presentations**

- Bidgoli, T. S., Earthquakes in Kansas: An update of research at the Kansas Geological Survey: Kansas Environmental Conference, August 20, Topeka, Kansas.
- Bidgoli, T. S., 2015, Low-temperature thermochronology of the Central Basin and Range: San Francisco State University Speaker Series, September 8, San Francisco, California (invited).
- Bidgoli, T. S., FazelAlavi, M., and Holubnyak, Y., 2015, Reservoir-geomechanical analysis of fluid injection in the Arbuckle saline aquifer, south-central Kansas: Joint Meeting of the Groundwater Protection Council, National Rural Water Association, and Interstate Oil and Gas Compact Commission, September 28, Oklahoma City, Oklahoma (invited).
- Bidgoli, T. S., Holubnyak, Y., and FazelAlavi, M., 2015, Evaluating potential for induced seismicity through reservoir-geomechanical analysis of fluid injection in the Arbuckle saline aquifer, south-central Kansas: AAPG Annual Convention and Exhibition, June 3, Denver, Colorado.
- Bidgoli, T. S., Schwab, D. R., Watney, W. L., and Gerlach, P., 2015, Subsurface faults and present-day stresses in southern Kansas: Implications for brine disposal and long-term storage of CO<sub>2</sub>: AAPG Midcontinent Section Meeting, October 4, Tulsa, Oklahoma.
- Brookfield, A. E., 2015, Groundwater/surface water interactions at Konza: Flow and thermal transport in N4D: Konza LTER Workshop, May 29, Manhattan, Kansas.
- Butler, J. J., Jr., Whittemore, D. O., and Wilson, B. B., 2015, Assessing the future of the High Plains aquifer, 36th Annual Oklahoma Governor's Water Conference and Research Symposium, December 2, Norman, Oklahoma.
- Butler, J. J., Jr., Liu, G., Knobbe, S., Reboulet, E., Bohling, G., and Walsh, D., 2015, Recent advances in characterization of the shallow subsurface using direct-push technology, 47th Annual Geotechnical Engineering Conference, November 12, University of Kansas, Lawrence, Kansas.
- Butler, J. J., Jr., Whittemore, D. O., and Wilson, B. B., 2015, Understanding Kansas groundwater declines, 2015 Ogallala Aquifer Program Annual Workshop, March 12, Manhattan, Kansas.
- Dunham, J. W., 2015, Surficial geology of Dickinson County, Kansas: Map gallery (poster) presentation, Esri International User Conference, July 20, San Diego, California.
- Dunham, J. W., 2015, Surficial geology of Pawnee County, Kansas: Map gallery (poster) presentation, Esri International User Conference, July 20, San Diego, California.

- Franseen, E. K., Goldstein, R. H., Johnson, C. L., and Byrnes, A., 2015, Stratigraphic architecture and reservoir character for Upper Miocene deep-water heterozoan carbonates, SE Spain: Kansas Interdisciplinary Carbonate Consortium Annual Review Meeting. Extended abstract.
- Holubnyak, Y., 2015, Reservoir modeling update on small-scale CO<sub>2</sub> EOR at Wellington Field, KS: KIOGA, Wichita, Kansas.
- Holubnyak, Y., Watney, L., FazelAlavi, M., Rush, J., Bidgoli, T., Williams, E., Gerlach, P., and Datta, S., 2015, Regional assessment of reservoir properties and waste disposal modeling for the Arbuckle Group in South-Central and Southwestern Kansas: Invited speaker at AAPG Geosciences Technology Workshop (GTW), August 11–12, Golden, Colorado.
- Layzell, A. L., 2015, Historic drought variability in Kansas: Kansas Water Symposium, March 7, Dyck Arboretum of the Plains.
- Ludvigson, G. A., 2015, Reflections on Cretaceous terrestrial paleoclimatology from the September 2015 IGCP 609 Workshop in Nanjing, China: Department of Geology, University of Kansas, Lawrence, Kansas, September 24.
- Ludvigson, G. A., 2015, Building a 3D model of sediments in the High Plains aquifer: It's about time: Red Hot Research, The Commons, Spooner Hall, University of Kansas, August 28.
- Ortega-Ariza, D., Franseen, E. K., Santos-Mercado, H., Ramirez-Martinez, W., and Core, E., 2015, Strontium-isotope stratigraphy for Oligocene-Miocene carbonate systems in Puerto Rico and the Dominican Republic: Implications for Caribbean processes affecting depositional history: Kansas Interdisciplinary Carbonate Consortium Annual Review Meeting. Extended abstract.
- Pugliano, T., Goldstein, R. H., and Franseen, E. K., 2015, Fundamental units of heterozoan carbonates: Sedimentologic and reservoir properties of shoaling- and fining-upward cycles: Kansas Interdisciplinary Carbonate Consortium Annual Review Meeting. Extended abstract.
- Smith, J. J., 2015, Chronostratigraphic assessment of enigmatic red beds at Point of Rocks, Cimarron National Grassland, Kansas: U-Pb age constraints from detrital zircons: Kansas Geological Survey Advisory Committee meeting, Lawrence, Kansas.
- Smith, J. J., 2015, Lessons from the living: Using modern organisms to answer paleontological questions: Kansas-Missouri Paleontological Society meeting, January 25.
- Stewart, D., Suchy, D. R., and Reboulet, E., 2015, WWC-5 forms and KOLAR: Reporting latitude, longitude and datum: Kansas Ground Water Association Convention, January 23, Hutchinson, Kansas.
- Stover, S. G., 2015, Kansas Water Plan: Kansas Environmental Women Network panel, January 20, Lawrence, Kansas.
- Stover, S. G., 2015, Kansas water: Where is it? Who uses it? And why does it matter anyway? Basehor-Linwood High School, January 27, Basehor, Kansas.
- Stover, S. G., 2015, Kansas geology, water and physiography: Kansas Master Naturalists Class, KSU Research & Extension, April 8, Olathe, Kansas.
- Stover, S. G., 2015, Kansas water: Conditions, problems, possible solutions: Geography class, University of Kansas, April 16, Lawrence, Kansas.
- Stover, S. G., 2015, What's the matter with Kansas water? Association of Earth Science Editors, October 8, Lawrence, Kansas.
- Stover, S. G., 2015, Kansas water management: Water Ideate, October 24, Anschutz Library, University of Kansas, Lawrence, Kansas.
- Watney, L., and Holubnyak, Y., 2015, Update on induced seismicity studies by the Kansas Geological Survey: Kansas Geological Society, December 9, Wichita, Kansas.
- Wilson, B. B., 2015, Kansas Agriculture and Rural Leadership (KARL), Greensburg.
- Wilson, B. B., 2015, KSU Extension Service, Cover Your Acres Conference, Oberlin.
- Wilson, B. B., 2015, KU GEOG558 (Intermediate GIS), Lawrence.
- Wilson, B. B., 2015, Northwest Kansas GMD4 Annual Meeting, Colby.
- Wilson, B. B., 2015, Central Plains Irrigation Conference, Colby.
- Wilson, B. B., 2015, USFWS Darter Species Assessment Workshop, Manhattan.
- Wilson, B. B., 2015, Southwest Kansas GMD3 Annual Meeting, Liberal.
- Wilson, B. B., 2015, KRWA Conference, Booth display and presentation, Wichita.
- Wilson, B. B., 2015, KWEA and KsAWWA Joint Annual Conference, Topeka.
- Wilson, B. B., 2015, El Dorado Rotary Club, El Dorado.
- Wilson, B. B., 2015, ACWI SOGW meeting (remote), Reston, Virginia.
- Wilson, B. B., 2015, Pioneer Electric Cooperative, Ulysses.
- Wilson, B. B., 2015, Western Kansas GMD#1 Board (x2), Scott City.

Wilson, B. B., 2015, Radio (WIBW) and TV (KSN Garden City) interviews.

### **Awards & Honors**

Bidgoli, T. S.—American Association of Petroleum Geologists, Award of Excellence, Top 10 Oral Presentation, 2015.

Dunham, J. W.—GIS Professional (GISP) certification, GIS Certification Institute (GISCI).

Franseen, E. K.—AAPG 2015 Award of Excellence “Top 10” Poster Presentation, AAPG/SEPM Annual Convention and Exhibition, Denver, Colorado.

Franseen, E. K.—Featured article: Research on unconventional reservoirs was highlighted in an article in the AAPG Explorer, July 2015.

Franseen, E. K.—SEPM 2014–2015 Past President of SEPM, the International Society for Sedimentary Geology.

Stover, S. G.—Geological Society of America Fellow.

Stover, S. G.—Geological Society of America, Geology and Public Policy Committee Chair (through June 2015); Past Chair (until June 2016).

Stover, S. G.—Geological Society of America, Geology and Society Division, Vice Chair.

### **Internal Service**

Bidgoli, T. S.—Member, Merriam Research Award Selection Committee.

Bidgoli, T. S.—Volunteer, KGS Earth Day Booth.

Bidgoli, T. S.—Supervisor, KGS Energy Research Section interns Minh C. Nguyen and Christa M. Jackson.

Butler, J. J., Jr.—Co-Chair, KGS Director Search Committee.

Brookfield, A. E.—KU Center for Science and Research Support Representative.

Brookfield, A. E.—Member, GIS student hourly search Committee.

Brookfield, A. E.—Performed six agency reviews.

Brookfield, A. E.—Member, Merriam Research Award Committee.

Dunham, J. W.—Chair, search committee, GIS Support-Cartographic Services position.

Franseen, E. K.—Member, KGS Stratigraphic Nomenclature Committee.

Franseen, E. K.—Member, Editorial Board for Current Research in Earth Sciences Bulletin, Kansas Geological Survey.

Layzell, A. L.—Member, KGS Stratigraphic Nomenclature Committee.

Ludvigson, G. A.—Member, KGS Stratigraphic Nomenclature Committee

Ludvigson, G. A.—KGS STATEMAP Program Coordinator.

Ludvigson, G. A.—Chair, KGS Promotion & Review Committee.

Ludvigson, G. A.—Co-Chair, KGS Director Search Committee.

Ludvigson, G. A.—Member, Committee on Promotions for Intermediate Review by the KU Office of Research.

Ludvigson, G. A.—Member, search committee for new lab manager for the Keck Paleoenvironmental & Environmental Stable Isotope Laboratory (KPESIL).

Ludvigson, G. A.—Research hours faculty supervisor for KU graduate students Jeff Ross and Holly Field.

Ludvigson, G. A.—Member, two Ph.D. thesis committees (Tony Layzell and Julianne Emry), University of Kansas.

Ludvigson, G. A.—Member, six MS thesis committees (Jeff Ross, Holly Field, Brittany Hendrix, Thomas Neal, Brian Sitek, and Jason Hallman), University of Kansas.

Sawin, R. S.—Chair, KGS Stratigraphic Nomenclature Committee.

Smith, J. J.—Member, Kansas Geological Mapping Advisory Committee (KGMAC).

Smith, J. J.—Performed eight agency reviews on potential environmental concerns for proposed construction and improvement projects in Kansas as requested by federal, state, and private agencies as part of their environmental due diligence requirements (supervised by Dan Suchy).

Smith, J. J.—Member, KGS Outstanding Support Staff Recognition Award Committee.

Stover, S. G., Member, Kansas Geological Mapping Advisory Committee.

Tollefson, J. M.—Ex officio member, KGS Stratigraphic Nomenclature Committee.



## External Service

- Bidgoli, T. S.—Member, Kansas Induced Seismicity Taskforce.
- Bidgoli, T. S.—Member, American Association of Petroleum Geologists, Grant-In-Aid Committee.
- Bidgoli, T. S.—Member, American Association of Petroleum Geologists, Education Committee.
- Bidgoli, T. S.—Co-chair, M.S. thesis committees for two students, Drew R. Schwab and James P. Tyrrell.
- Bidgoli, T. S.—Co-supervisor, Visiting Scholar (China University of Geosciences) Wei Wang.
- Bidgoli, T. S.—Instructor, Special Studies in Geology: (U-Th)/He Thermochronology.
- Bidgoli, T. S.—Co-Instructor, Advanced Topics in Geology: Induced Seismicity in Kansas.
- Bidgoli, T. S.—Co-Instructor, Geology for Petroleum Engineers.
- Buchanan, R. C.—Host co-chair, 49<sup>th</sup> annual meeting of the Association of Earth Science Editors, October 6–10, Lawrence, Kansas.
- Butler, J. J., Jr.—Member, Ph.D. committee, Erin Haacker, Department of Geological Sciences, Michigan State University, 2013–present.
- Butler, J. J., Jr.—Member, Ph.D. committee, Jose Solis, Department of Civil, Environmental and Architectural Engineering, University of Colorado, 2012–present.
- Butler, J. J., Jr.—Workshop instructor, Direct-Push Methods for High-Resolution Characterization of Subsurface Properties: From Theory to the Field, Consortium of Universities for the Advancement of the Hydrologic Sciences, Inc. (CUAHSI), September 28–October 1, Lawrence, Kansas.
- Butler, J. J., Jr.—Workshop instructor, Practical Guidelines to Get More from Your Pumping Test Data (Internet seminar), Midwest Geosciences Group, January 22.
- Butler, J. J., Jr.—Slug Tests for Site Characterization: The Six Key Steps (Internet seminar), Midwest Geosciences Group, January 15.
- Butler, J. J., Jr.—President (July 2013 to April 2015), International Commission on Ground Water, International Association of Hydrological Sciences.
- Butler, J. J., Jr.—Appointed Member, Kansas Water Resources Institute Administrative Council, 2011–present.
- Butler, J. J., Jr.—Associate Editor, Ground Water, 2002–present.
- Butler, J. J., Jr., Instructor, Geology 851, Physical and Transport Hydrology, 2011–present.
- Brookfield, A. E.—Newsletter editor, Hydrogeology Division of Geological Society of America.
- Brookfield, A. E.—Associate editor, Ground Water.
- Brookfield, A. E.—Courtesy assistant professor, University of Kansas Geology Department.
- Brookfield, A. E.—WRAPS representative.
- Brookfield, A. E.—Professional Reviews: two manuscripts, Water Resources Research; three manuscripts, Ground Water; two manuscripts, Journal of Hydrologic Engineering; two manuscripts, Advances in Water Resources; one manuscript, Mathematical Geosciences; one manuscript, Hydrogeology Journal.
- Brookfield, A. E.—Member, one Ph.D. and two MS committees (University of Kansas) and one MS committee (McGill).
- Brookfield, A. E.—Instructor, Geology 591/791: Differential Equations for Hydrology, Spring 2015.
- Evans, C. S.—Earth Day Celebration and Water Festival, Lawrence, Kansas.
- Franseen, E. K.—Organizer and Convener, 2015 Kansas Interdisciplinary Carbonates Consortium (KICC) Annual Meeting.
- Franseen, E. K.—Co-instructor for AAPG Education Program: "Controls on Porosity Types and Distribution in Carbonate Reservoirs," June 8–13, Almeria, Spain.
- Franseen, E. K.—Co-leader for field trip to look at Lansing–Kansas City strata for Worldwide Petroleum Services and Flatiron Oil geoscientists, November 8.
- Franseen, E. K.—Past President, SEPM (Society of Sedimentary Research).
- Franseen, E. K.—Member, Board of Visitors (Alumni Board), Department of Geology, University of Wisconsin-Madison.
- Franseen, E. K.—Chair, SEPM Twenhofel Medal Award Committee.
- Franseen, E. K.—Member, SEPM Student Research Grant Evaluation Committee.
- Franseen, E. K.—Member, Promotion and Tenure Committee, Department of Geology, University of Kansas.
- Franseen, E. K.—Member, Graduate Students Admissions Committee, Department of Geology, University of Kansas.
- Franseen, E. K.—Evaluator, Faculty Teaching, Department of Geology, University of Kansas.
- Franseen, E. K.—Students Supervised: Diana Ortega-Ariza, Ph.D. (chair); Elson Core, Ph.D. (chair); Alyssa Flotron, MS (co-chair); Rafferty Sweeney (co-chair); Karen Ohmes-Lechtenburg, MS (co-chair); Tony

Pugliano, MS (co-chair); Leila Joyce, Ph.D. (committee member); Adrienne Duarte, MS (committee member); Jason Rush, Ph.D. (committee member); Jennifer Lowry, MS (committee member); Thomas Neal, MS (committee member); Maritha Huber, MS (committee member); Sean Fischer, MS (committee member); Alex Nolte, MS (committee member); Erich DeZoeten, MS (committee member).

Franseen, E. K.—Post-docs supervised: Hassan Eltom, Kansas Interdisciplinary Carbonates Consortium (KICC), University of Kansas (2014–present).

Holubnyak, Y.—Member, Kansas Induced Seismicity State Task Force.

Holubnyak, Y.—EPA Class VI Well permit application.

Ludvigson, G. A.—Associate editor, *Journal of Sedimentary Research*. Coordinated peer reviews of four manuscripts.

Ludvigson, G. A.—External reviewer for the promotion of Associate Professor André Desrochers to Full Professor, University of Ottawa, Ottawa, Ontario, Canada, November 2015.

Ludvigson, G. A.—Peer review of two manuscripts for *Palaeogeography*, *Palaeoclimatology*, *Palaeoecology*, one manuscript for *Sedimentology*, one manuscript for *Cretaceous Research*, and two manuscripts for *Nature Geoscience*.

Ludvigson, G. A.—Peer review of proposal for the U.S. National Science Foundation.

Smith, J. J.—Earth Science Day event, KU Natural History Museum, Lawrence, Kansas.

Smith, J. J.—University of Kansas graduate thesis committee service: James Golab, Ph.D. candidate co-advised with Luis Gonzalez.

Smith, J. J.—Technical assistance and training to KU students: Elijah Turner, Brian Sitek, Tony Pugliano, Abdul Wahab.

Stewart, D. L.—Oil and gas data on the KGS website, log scanning and materials and resources in the Data Resources Library, presentation to University of Kansas Geology 535 class.

Stewart, D. L.—Earth Day Celebration and Water Festival, Lawrence, Kansas.

Stewart, D. L.—KGS representative for the KU United Way Campaign, Lawrence, Kansas.

Stover, S. G.—Chair, GSA, Congressional Science Fellow Selection Committee.

Stover, S. G.—Member, GSA, Public Service Award Committee.

Stover, S. G.—Steering Committee, Women In Science Day, Washburn University.

Stover, S. G.—Energy Expo planning committee, Kansas Corporation Commission.

Stover, S. G.—Member, Geology Associates Advisory Committee, University of Kansas.

Stover, S. G.—Earth Day Celebration, April 11, Lawrence, Kansas.

Stover, S. G.—Earth Science Week, Natural History Museum, University of Kansas, October 17, Lawrence, Kansas.

Stover, S. G.—Organizer and Moderator, Governor’s Water Conference on the Future of Water in Kansas, November 18–19, Manhattan, Kansas.

Stover, S. G.—Information Fair for new faculty, University of Kansas, December 7, Lawrence, Kansas.

Suchy, D. R.—Research Senator, Unclassified Professional Staff Senate, University of Kansas (2012–April 2015).

Suchy, D. R.—Member and Vice Chairman, Board of Directors, Rural Water District #5, Douglas County, Kansas (2007–present).

Suchy, D. R.—Member and Treasurer, Board of Directors, Public Wholesale Water Supply District #25, Douglas and Osage Counties, Kansas (2007–present).

Tollefson, J. M.—Host co-chair, 49<sup>th</sup> annual meeting of the Association of Earth Science Editors, October 6–10, Lawrence, Kansas.

## Grants

National Geological and Geophysical Data Preservation Program Grant to Data Resources Library and Wichita Well Sample Library, Kansas Geological Survey, D. R. Suchy, PI; administered through U. S. Geological Survey, 2015–2016, \$50,474.

The MADE challenge for groundwater transport in highly heterogeneous aquifers: Insights from 30 years of modeling and characterization at the field scale and promising future directions, J. J. Butler, Jr., co-PI; National Science Foundation, 2015, \$45,120.

High Plains aquifer calibration monitoring well program, J. J. Butler, Jr., PI; Kansas Water Office, 2015–2016, \$90,000.

Estimating mobile-immobile mass transfer parameters using direct push tools, J. J. Butler, Jr., co-PI; Strategic Environmental Research and Development Program (SERDP), 2015–2018, \$171,520.

Developing and promoting water-, nutrient-, and climate-smart technologies to help agricultural systems adapt to climate and societal changes, J. J. Butler, Jr., PI (Kansas component); National Institute of Food and Agriculture, U.S. Dept. of Agriculture, 2015–2020, \$235,481.

### **Computer Software**

- Victorine, J. R.—PS Wave Java Applet (creates velocity model for predicting shallow earthquakes under the Wellington Seismic Array). <http://www.kgs.ku.edu/PRS/Ozark/Software/PSWave/index.html>
- Victorine, J. R.—LoQuake Applet (computes the location of shallow seismic event using 3 sensors to triangulate the position of the event). <http://www.kgs.ku.edu/PRS/Ozark/Software/LoQuake/index.html>
- Victorine, J. R.—2D Plot of Kansas Earthquakes by Magnitude versus Date Java Applet (two-dimensional plot of earthquake magnitudes versus dates for Kansas Earthquakes).  
[http://www.kgs.ku.edu/PRS/Ozark/Software/KS\\_Earthquake\\_2DPlot/index.html](http://www.kgs.ku.edu/PRS/Ozark/Software/KS_Earthquake_2DPlot/index.html)
- Victorine, J. R.—3D Plot Kansas Earthquakes by Location Java Applet (two- and three- dimensional plots of Kansas earthquakes in Sumner and Harper counties).  
[http://www.kgs.ku.edu/PRS/Ozark/Software/KS\\_Earthquake\\_3DPlot/index.html](http://www.kgs.ku.edu/PRS/Ozark/Software/KS_Earthquake_3DPlot/index.html)
- Victorine, J. R.—3D Plot Animation Kansas Earthquakes by Location Java Applet (animated 2 and 3 dimensional plots of Kansas earthquakes in Sumner and Harper counties).  
[http://www.kgs.ku.edu/PRS/Ozark/Software/KS\\_Earthquake\\_3DMovie/index.html](http://www.kgs.ku.edu/PRS/Ozark/Software/KS_Earthquake_3DMovie/index.html)
- Victorine, J. R.—Gridding & Mapping Brine Data Java Applet (allows the user to plot brine data for the CO<sub>2</sub> project wells map). <http://www.kgs.ku.edu/PRS/Ozark/Software/GRID/index.html>
- Victorine, J. R.—Principal Component Analysis Brine Data Java Applet (allows the user to perform a principal component analysis on CO<sub>2</sub> brine data and to present the covariance, eigenvalues, eigenvectors matrices and plots to illustrate the data). <http://www.kgs.ku.edu/PRS/Ozark/Software/PC/index.html>

### **Website**

- Placed 32 publications online
- Placed 48 open-file reports online
- Scanned 23,338 water well records
- Scanned 18,785 wireline logs

# 2014

## **Refereed Publications**

- Andrew, J. E., Rittase, W. M., Monastero, F. M., Bidgoli, T., and Walker, J. D., 2014, Geologic map of the northern Lava Mountains and Summit Range, San Bernardino County, California: Geological Society of America Digital Map and Chart Series 19, doi:10.1130/2014.DMCH019.
- Benson, G. S., Franseen, E. K., Goldstein, R. H., and Li, Z., 2014, Workflows for incorporating stratigraphic and diagenetic relationships into a reservoir-analogue model from outcrops of Miocene carbonates in southeastern Spain: *Petroleum Geoscience*, v. 20, p. 50–78.
- Butler, J. J., Jr., Bohling, G. C., Brookfield, A. E., Liu, G., Whittemore, D. O., and Wilson, B. B., 2014, Importance of a sound hydrologic foundation for assessing the future of the High Plains aquifer in Kansas: *Proceedings of the National Academy of Sciences of the United States of America*, v. 111, no. 5, E531, doi:10.1073/pnas.1322176111.
- Dogan, M., Van Dam, R. L., Liu, G., Meerschaert, M. M., Butler J. J., Jr., Bohling, G. C., Benson, D. A., and Hyndman D. W., 2014, Predicting flow and transport in highly heterogeneous alluvial aquifers: *Geophysical Research Letters*, v. 41, p. 7,560–7,565, doi:10.1002/2014GL061800.
- Doveton, J., and Watney, W. L., 2014, Textural and pore size analysis of carbonates from integrated core and nuclear magnetic resonance logging: An Arbuckle study: *Interpretation*, v. 3, p. SA77–SA89.
- Dvoretzky, R. A., Goldstein, R. H., Franseen, E. K., and Byrnes, A., 2014, Reservoir-analog modeling of focused-flow and dispersed-flow deepwater carbonates: Miocene Agua Amarga Basin, Southeast Spain; *in*, SEPM Special Publication 105, *Deposits, Architecture and Controls of Carbonate Margin, Slope, and Basin Systems*, p. 334–358.
- Fazelalavi, M., Fazelalavi, M., and Fazelalavi, M., 2014, Determination of reservoir permeability based on irreducible water saturation and porosity from log data and FZI (Flow Zone Indicator) from Core Data. Control number: 13IPTC-P-1156-IPTC, 7th International Petroleum Technology Conference (IPTC) (patent pending).
- Händel, F., Liu, G., Dietrich, P., Liedl, R., and Butler, J. J., Jr., 2014, Numerical assessment of ASR recharge using small-diameter wells and surface basins: *Journal of Hydrology*, v. 517, p. 54–63, doi:10.1016/j.jhydrol.2014.05.003.
- Heidari, A., González, L. A., Mahboubi, A., Moussavi-Harami, R., Ludvigson, G. A., and Chakrapani, G. J., 2014, Diagenetic model of carbonate rocks of Guri Member of Mishan Formation (Lower to Middle Miocene) SE Zagros Basin, Iran: *Journal of the Geological Society of India*, v. 84, p. 87–104.
- Heidari, A., Shokri, N., Ghasemi-Nejad, E., González, L., and Ludvigson, G., 2014, Application of petrography, major and trace elements, carbon and oxygen isotope geochemistry to reconstruction of diagenesis of carbonate rocks of the Sanganeh Formation (Lower Cretaceous), East Kopet-Dagh Basin, NE Iran: *Arabian Journal of Geoscience*, doi:10.1007/s12517-014-1548-y.
- Hembree, D. I., Platt, B. F., and Smith, J. J., (eds.), 2014, Experimental approaches to understanding fossil organisms: Lessons from the living; *in*, *Topics in Geobiology*, v. 41: New York, Springer, 420 p.
- Holubnyak, Y., Watney, W. Rush, J., and Fazelalavi, F., 2014, Reservoir engineering aspects of pilot scale CO<sub>2</sub> EOR project in Upper Mississippian Formation at Wellington Field in Southern Kansas: *Energy Procedia* 00 (2013) 000–000, 9 p.
- Layzell, A. L., and Mandel, R. D., 2014. An assessment of the erodibility of Holocene lithounits comprising streambanks in northeastern Kansas, USA: *Geomorphology* 213, p. 116–127
- Li, Z., Goldstein, R. H., and Franseen, E. K., 2014, Climate, duration, and mineralogy controls on meteoric diagenesis: *Interpretation*, v. 2, p SF111–SF123.
- Li, Z., Goldstein, R. H., and Franseen, E. K., 2014, Geochemical record of fluid flow and dolomitization of carbonate platforms: Ascending freshwater-mesohaline mixing, Miocene of Spain; *in*, *Fundamental Controls on Fluid Flow in Carbonates*, S. M. Agar and S. Geiger, eds.: Geological Society, London, Special Publications, 406, First published May 13, 2014.
- Meixner, T., Manning, A. H., Stonestrom, D., Ajami, H., Allen, D. M., Blasch, K., Brookfield, A., Castro, C. L., Clark, J. F., Gochis, D., Flint, A., Neff, K., Niraula, R., Rodell, M., Scanlon, B., Singha, K., and Walvoord, M., Implications of projected climate change for groundwater recharge in the western United States. Submitted for publication in *Environmental Research Letters*.
- Merriam, D. F. and Newell, K. D., 2014, The producing oil mine in Kansas: *Transactions of the Kansas Academy of Science*, v. 117, no. 1–2, p. 88–90.

- Newell, K. D., Watney, W. L., and Gerlach, P., 2014, An overview and preliminary economic assessment of horizontal wells drilled in the Mississippian Limestone Play in Kansas, 2010–2012: Kansas Geological Society, Bulletin, v. 89, no. 1, p. 10–15.
- Ramaker, E. M., Goldstein, R. H., Franseen, E. K., and Watney, W. L., 2014, What controls porosity in cherty fine-grained carbonate reservoir rocks? Impact of stratigraphy, unconformities, structural setting and hydrothermal fluid flow: Mississippian, southeast Kansas; *in*, Fundamental Controls on Flow in Carbonates, S. M. Agar, S. Geiger, and J. Lamarche, eds.: Geological Society of London: Special Publications, V. 406, p. 179–208.
- Suarez, C. A., González, L. A., Ludvigson, G. A., Kirkland, J. I., Cifelli, R. L., and Kohn, M. J., 2014, Multi-taxa isotopic investigation of paleohydrology in the Lower Cretaceous Cedar Mountain Formation, eastern Utah: Deciphering effects of the Nevadaplano plateau on regional climate: Journal of Sedimentary Research, v. 84, p. 975–987. <http://dx.doi.org/10.2110/jsr.2014.76>.
- Walker, J. D., Bidgoli, T. S., Diderickson, B. D., Stockli, D. F., and Andrew, J. F., 2014, Middle Miocene to recent exhumation of the Slate Range, eastern California, and implications for the timing of extension and the transition to transtension: Geosphere, doi:10.1130/GES00947.1.
- Whittemore, D. O., Macfarlane, P. A., and Wilson, B. B., 2014, Water resources of the Dakota aquifer in Kansas: Kansas Geological Survey, Bulletin 260, 60 p.
- Woody, D. T., Smith, J. J., Kraus, M. J., and Hasiotis, S. T., 2014, Manganese-bearing rhizocretions in the Willwood Formation, Wyoming, U.S.A.: Implications for paleoclimate during the Paleocene-Eocene Thermal Maximum: PALAIOS, v. 29, p. 266–276.

### **Nonrefereed Publications**

- Bidgoli, T. S., 2014, Low-temperature thermochronometric constraints on Cenozoic intraplate deformation in the central Basin and Range [Ph.D. dissertation]: Lawrence, Kansas, University of Kansas, 225 p.
- Birdie, T., Raney, J., et al., 2014, Berexco, LLC, UIC Class 6 Permit Application: Wellington oil field small scale carbon capture and storage project, submitted to US EPA, May 23, 416 p.
- Buchanan, R. C., Newell, K. D., Evans, C. S., and Miller, R. D., 2014, Induced seismicity—The potential for triggered earthquakes in Kansas: Kansas Geological Survey, Public Information Circular 36, 6 p.
- Butler, J. J., Jr., Whittemore, D. O., Reboulet, E., Stotler, R. L., Bohling, G. C., Olson, J. C., and Wilson, B. B., 2014, High Plains aquifer index well program: 2013 annual report: Kansas Geological Survey Open-File Report 2014-1, 90 p.
- Lyle, S. A. and Evans, C. S., eds., 2014, Central Kansas and the Arkansas River valley—Surface water, wetlands, and petroleum industries, Kansas Field Conference, field guide: Kansas Geological Survey, Open-File Report 2014-4, 76 p.
- Mandel, R. D., and Newell, K. D., 2014, Preliminary surficial geology of the Miami County portion of the Lane Quadrangle, Kansas: Kansas Geological Survey, Open-File Report no. 2014-10, 1 sheet, scale 1:24,000 ([http://www.kgs.ku.edu/Publications/OFR/GeoMaps/KsGS\\_OFR2014-10\\_Lane.pdf](http://www.kgs.ku.edu/Publications/OFR/GeoMaps/KsGS_OFR2014-10_Lane.pdf)).
- Mandel, R. D., and Newell, K. D., 2014, Preliminary surficial geology of the Miami County portion of the Osawatimie Quadrangle, Kansas Publication: Kansas Geological Survey, Open-File Report no. 2014-11, 1 sheet, scale 1:24,000 ([http://www.kgs.ku.edu/Publications/OFR/GeoMaps/KsGS\\_OFR2014-11\\_Osawatimie.pdf](http://www.kgs.ku.edu/Publications/OFR/GeoMaps/KsGS_OFR2014-11_Osawatimie.pdf)).
- Newell, K. D., and Stalder, K. R., 2014, Analysis of Marmaton and Cherokee Group coal and shale samples for gas content in four Petron Resources Core Holes in Bates and Cass Counties, Missouri: #1-24 Jacobs, S2 NW sec. 24-T.42N.-R.33W., #1-26 Lacy, S2 NE sec. 26-T.43N.-R.33W., #1-21 Cockrell, SW SW SW sec. 21-T.44N.-R.32W., #1-30 Zimmerman, SE NW NW sec. 30-T.45N.-R.32W.: Kansas Geological Survey, Open-File Report no. 2014-12, 132 p., with appendices.
- Newell, K. D., Watney, W. L., and Gerlach, P., 2014, An overview and preliminary economic assessment of horizontal wells drilled in the Mississippian Limestone Play in Kansas, 2010–2012: Kansas Geological Society, Bulletin, v. 89, no. 1, p. 10–15.
- Smith, J. J., 2014, Preliminary geology field maps and stratigraphic column, Haskell County, Kansas (Hickok and North of Santana USGS 7.5 minute quadrangle): Kansas Geological Survey, Open-File Report, 2 sheets, scale 1:24,000.
- Smith, J. J., and Ludvigson, G. A., 2014, A report to the Calvert Corporation on a geologic inspection of the Calvert volcanic ash mine: Kansas Geological Survey, Open-File Report 2014-3, 5 p. ([http://www.kgs.ku.edu/Publications/OFR/2014/OFR14\\_3/index.html](http://www.kgs.ku.edu/Publications/OFR/2014/OFR14_3/index.html))

- Smith, J. J., Ludvigson, G. A., Harlow, H., and Platt, B., 2014, Ogallala–High Plains aquifer special study phase III: Lithologic calibration of practical saturated thickness in the Ogallala–High Plains Aquifer: Kansas Geological Survey, Open-File Report 2014-2, 9 p. ([http://www.kgs.ku.edu/Publications/OFR/2014/OFR14\\_2/index.html](http://www.kgs.ku.edu/Publications/OFR/2014/OFR14_2/index.html))
- Walker, J. D., and Bidgoli, T. S., 2014, Slate Range Thermochronology: Integrated Earth Data Applications (IEDA), doi:10.1594/IEDA/100424.
- Watney, W. L., DeGood, A., Davis, D., Houseberg, K., Rush, J., Doveton, J., Newell, D., and Honas, J., 2014, Contacting new reservoir in Hunton dolomite in nearly depleted Unger Field Marion County, Kansas using a lateral with azimuthal gamma ray sensor and drillpipe conveyed wireline logs: Research Partnership to Secure Energy for America (RPSEA), Final Report, 180 p.
- Watney, W. L., and Rush, J., 2014, 17th quarter progress report—Modeling CO<sub>2</sub> sequestration in saline aquifer and depleted oil reservoir to evaluate regional CO<sub>2</sub> sequestration potential of Ozark Plateau Aquifer System, south-central Kansas. [http://www.kgs.ku.edu/PRS/Ozark/Reports/2014/Q17\\_2014.pdf](http://www.kgs.ku.edu/PRS/Ozark/Reports/2014/Q17_2014.pdf)
- Watney, W. L., and Rush, J., 2014, 18th quarter progress report—Modeling CO<sub>2</sub> sequestration in saline aquifer and depleted oil reservoir to evaluate regional CO<sub>2</sub> sequestration potential of Ozark Plateau Aquifer System, south-central Kansas. [http://www.kgs.ku.edu/PRS/Ozark/Reports/2014/Q18\\_2014.pdf](http://www.kgs.ku.edu/PRS/Ozark/Reports/2014/Q18_2014.pdf)
- Watney, W. L., and Rush, J., 2014, 19th quarter progress report—Modeling CO<sub>2</sub> sequestration in saline aquifer and depleted oil reservoir to evaluate regional CO<sub>2</sub> sequestration potential of Ozark Plateau Aquifer System, south-central Kansas. [http://www.kgs.ku.edu/PRS/Ozark/Reports/2014/Q19\\_2014.pdf](http://www.kgs.ku.edu/PRS/Ozark/Reports/2014/Q19_2014.pdf)
- Watney, W. L., and Rush, J., 2014, 20th quarter progress report—Modeling CO<sub>2</sub> sequestration in saline aquifer and depleted oil reservoir to evaluate regional CO<sub>2</sub> sequestration potential of Ozark Plateau Aquifer System, south-central Kansas. [http://www.kgs.ku.edu/PRS/Ozark/Reports/2014/Q20\\_2014.pdf](http://www.kgs.ku.edu/PRS/Ozark/Reports/2014/Q20_2014.pdf)
- Watney, W. L., and Rush, J., 2014, 9th quarter progress report—Small scale field test demonstrating CO<sub>2</sub> sequestration in Arbuckle saline aquifer and by CO<sub>2</sub>-EOR at Wellington Field, Sumner County, Kansas [http://www.kgs.ku.edu/PRS/Ozark/SmallScale/2014/Q9\\_2014r.pdf](http://www.kgs.ku.edu/PRS/Ozark/SmallScale/2014/Q9_2014r.pdf)
- Watney, W. L., and Rush, J., 2014, 10th quarter progress report—Small scale field test demonstrating CO<sub>2</sub> sequestration in Arbuckle saline aquifer and by CO<sub>2</sub>-EOR at Wellington Field, Sumner County, Kansas
- Watney, W. L., and Rush, J., 2014, 11th quarter progress report—Small scale field test demonstrating CO<sub>2</sub> sequestration in Arbuckle saline aquifer and by CO<sub>2</sub>-EOR at Wellington Field, Sumner County, Kansas [http://www.kgs.ku.edu/PRS/Ozark/SmallScale/2014/Q11\\_2014.pdf](http://www.kgs.ku.edu/PRS/Ozark/SmallScale/2014/Q11_2014.pdf)
- Watney, W. L., and Rush, J., 2014, 12th quarter progress report—Small scale field test demonstrating CO<sub>2</sub> sequestration in Arbuckle saline aquifer and by CO<sub>2</sub>-EOR at Wellington Field, Sumner County, Kansas [http://www.kgs.ku.edu/PRS/Ozark/SmallScale/2014/Q12\\_2014.pdf](http://www.kgs.ku.edu/PRS/Ozark/SmallScale/2014/Q12_2014.pdf)
- Whittemore, D. O., 2014, Assessment of the source of high nitrate concentration in the Pretty Prairie well water supply: for City of Pretty Prairie, 11 p.
- Whittemore, D. O., 2014, Characterization of the chloride contamination plume in the Hollow-Nikkel Area of Equus Beds Groundwater Management District No. 2: for use at Kansas Water Authority meeting in Garden City, Kansas, 14 p.
- Whittemore, D. O., Wilson, B. B., and Butler, J. J., Jr., 2014, Field trip guide, Groundwater resources of the alluvial aquifer system in the lower Kansas River valley: 59<sup>th</sup> Annual Midwest Ground Water Conference, Lawrence, Kansas, 31 p.



## Abstracts

- Bidgoli, T. S., Amir, E., Walker, J. D., Stockli, D. F., Andrew, J. E., and Caskey, J. S., 2014, Space-time patterns and geodynamic drivers of Miocene to Pliocene strain in Death Valley, CA, from low temperature thermochronology: Geological Society of America, Abstracts with Programs, v. 46, p. 442.
- Bidgoli, T. S., Walker, J. D., and Stockli, D. F., 2014, Two-phase development of the Nevadaplano from low-temperature thermochronology: American Geophysical Union, Fall Meeting, San Francisco, California, EP21B-3534.
- Bidgoli, T. S., Watney, W. L., Gerlach, P. M., and Nguyen, M. C., 2014, Episodic reactivation of critically-stressed basement faults in southern Kansas: Implications for wastewater disposal and long-term storage of CO<sub>2</sub>: Geological Society of America, Abstracts with Program, v. 46, p. 317.
- Birdie, T., Watney, L., Gerlach, P., Killion, M., Holubnyak, E., Raney, J., Bidgoli, T., Williams, G., Nguyen, M., and Wilson, B., 2014, Impacts of carbon dioxide storage in the saline Arbuckle aquifer on freshwater aquifers in Kansas: 59<sup>th</sup> Annual Midwest Ground Water Conference.
- Brookfield, A. E., Stover, S., Gnau, C., and Beightel, C., 2014, Evaluating water management improvement strategies in the Kansas Lower Republican River Basin: Presentation with published abstract. Midwest Groundwater Conference, September 30–October 2.
- Butler, J. J., Jr., Whittemore, D. O., and Wilson, B. B., 2014, Assessing the major drivers of water-level declines: New insights into the future of the High Plains aquifer: Program and Abstracts, 59th Annual Midwest Ground Water Conference, Lawrence, Kansas, p. 37–38.
- Cooper, K., Xiao, Y., Whitaker, F., Goldstein, R., Franseen, E. K., Li, Z., Jones, G., and Stafford, S., 2014, Ascending freshwater-mesohaline mixing dolomitization: Insights from geochemical and reactive transport models: AAPG Annual Meeting, Houston, Texas.
- Cramer, B. D., Vandenbroucke, T. R. A., and Ludvigson, G. A., 2014, Asking old rocks new questions: High-Resolution Event Stratigraphy (HiRES) and the quantification of stratigraphic uncertainty: submitted for presentation at the International Geoscience Programme Project 591 Field Workshop, Kunming, China, August 12–21, 2014.
- Cramer, B. D., Vandenbroucke, T. R. A., and Ludvigson, G. A., 2014, The quest for precision in stratigraphy and the quantification of stratigraphic uncertainty: Geological Society of America, Abstracts with Programs, v. 46, no. 6, p. 439.
- Doveton, J. H., Ludvigson, G. A., Joeckel, R. M., and Platt, B. F., 2014, Here be dragons: The Morrison Formation in subsurface Kansas; *in*, Mid-Mesozoic: The Age of Dinosaurs in Transition Conference, J. Kirkland, J. Foster, R. Hunt-Foster, G. Ligget, and K. Trujillo, eds.: Museum of Western Colorado, Fruita, Colorado, April 30–May 5, 2014, p. 53–54.
- Field, H. L., Ludvigson, G. A., and Joeckel, R. M., 2014, Chronostratigraphic investigations of Cenozoic units in the Niobrara River Basin in Boyd County, northern Nebraska: Geological Society of America, Abstracts with Programs, v. 46, no. 4, p. 57.
- Franseen, E. K., and Ortega-Ariza, D., 2014, Controls on Mississippian inner ramp heterozoan carbonate & biosiliceous deposits in a midcontinent setting: Proceedings of the Houston Geological Society Applied Geoscience Conference “Integrated Approaches to Unconventional Reservoir Assessment and Optimization”, February 17–18, Houston, Texas, p. 45–49. EXTENDED ABSTRACT.
- Gutierrez, D. A., Newell, K. D., and Schulmeister, M. K., 2014, Evaluation of the Chattanooga Shale in Kansas as a shale gas resource [Abs.]: Abstracts and Proceedings of the Geological Society of America South-Central Section Annual Meeting, Fayetteville, Arkansas, March 23–25, v. 46, no.1, p. 33.
- Joeckel, R. M., Ludvigson, G. A., Kirkland, J. I., and Suarez, C. A., 2014, Pedostratigraphy and preliminary  $\delta^{13}\text{C}$  chemostratigraphy of the Yellow Cat Member (Lower Cretaceous) of the Cedar Mountain Formation, Utah; *in*, Mid-Mesozoic: The Age of Dinosaurs in Transition Conference, J. Kirkland, J. Foster, R. Hunt-Foster, G. Ligget, and K. Trujillo, eds.: Museum of Western Colorado, Fruita, Colorado, April 30–May 5, 2014, p. 60.
- Katz, B. S., Stotler, R. L., Hirmas, D. R., Whittemore, D. O., Butler, J. J., Jr., Smith, J. J., and Ludvigson, G. A., 2014, Analysis of chemical storage and transit times to characterize water movement through a thick unsaturated zone overlying the High Plains aquifer, northwestern Kansas: Program and Abstracts, 59th Annual Midwest Ground Water Conference, Lawrence, Kansas, p. 38–39.
- Knobbe, S., Liu, G., Konetchy, B., Reboulet, E., and Butler, J. J., Jr., 2014, Groundwater flow characterization using distributed temperature sensing: 23rd Annual Kansas Hydrology Seminar, Topeka, Kansas.
- Konetchy, B. E., Liu, G., Knobbe, S., Reboulet, E. C., and Butler, J. J., Jr., 2014, High-resolution quantification of groundwater flux using a heat tracer: Laboratory sandbox tests: 2014 NGWA Ground Water Summit, Denver, Colorado.

- Kraus, M. J., Woody, D., and Smith J. J., 2014, Alluvial response to climate change interpreted from paleosols across the Paleocene-Eocene Thermal Maximum, Bighorn Basin, Wyoming: Geological Society of America, Abstracts with Programs, p. 46.
- Layzell, A. L., Ludvigson, G. A., Mandel, R. D., and Smith, J. J., 2014, Investigations of the litho- and soil-stratigraphy of Plio-Pleistocene strata in the Cimarron River valley, southwestern Kansas: Geological Society of America Abstracts with Programs, v. 46, no. 4, p. 57.
- Layzell, A. L., and Mandel, R. D., 2014, Late Quaternary stratigraphy and paleoenvironmental change in the Cimarron River Valley, southwestern Kansas: American Quaternary Association 23<sup>rd</sup> Biennial Meeting, Seattle, Washington, August 2014.
- Layzell, A. L., Mandel, R. D., and Ludvigson, G. A., 2014, Pedogenic and isotopic evidence for Pleistocene paleoenvironmental change in southwestern Kansas: Kansas Academy of Science Annual Meeting, Emporia, Kansas, April 2014.
- Layzell, A. L., Mandel, R. D., Ludvigson, G. A., and Smith, J. J., 2014, Late Pleistocene eolian sedimentation, soil development, and climate change on the High Plains of southwestern Kansas: Geological Society of America, Abstracts with Programs, v. 46, no. 6, p. 151.
- Li, Z., Goldstein, R. H., and Franseen, E. K., 2014, Climate, duration and mineralogy controls on meteoric diagenesis: AAPG Annual Meeting, Houston, Texas.
- Liu, G., Butler, J. J., Jr., Knobbe, S., Reboulet, E., Bohling, G., Walsh, D., and Grunewald, E., 2014, Recent advances in hydrogeologic characterizations of the shallow subsurface using direct push technology, nuclear magnetic resonance, and distributed temperature sensing: 59th Annual Midwest Ground Water Conference, Lawrence, Kansas.
- Liu, G., Knobbe, S., Reboulet, E., Whittemore, D., Händel, F., and Butler, J. J., Jr., 2014, A new artificial recharge approach using direct push wells for aquifer storage and recovery in near-surface aquifers: A case study in the Lower Republican River Basin: 23rd Annual Kansas Hydrology Seminar, Topeka, Kansas.
- Liu, G., Knobbe, S., Reboulet, E., Whittemore, D., Händel, F., and Butler, J. J., Jr., 2014, A new artificial recharge approach using direct push wells for aquifer storage and recovery in near-surface aquifers: A case study in the Lower Republican River Basin: 59th Annual Midwest Ground Water Conference, Lawrence, Kansas.
- Liu, G., Knobbe, S., Reboulet, E., Whittemore, D., Händel, F., and Butler, J. J., Jr., 2014, A new artificial recharge approach using direct push wells for aquifer storage and recovery in near-surface aquifers: A case study in the Lower Republican River Basin, Eos Trans. AGU, v. 95, no. 53, Fall Meet. Suppl., Abstract H13A-1051.
- Long, M., Whittemore, D. O., Butler, J. J., Jr., and Stotler, R. L., 2014, Recharge characteristics of the High Plains aquifer near a predominantly dry river: Program and Abstracts, 59th Annual Midwest Ground Water Conference, Lawrence, Kansas, p. 42–43.
- Ludvigson, G. A., González, L. A., Suarez, C. A., Ross, J., and Platt, B., 2014, New additions to the North American mid-Cretaceous paleoprecipitation  $\delta^{18}\text{O}$  dataset: Integration of pedogenic carbonate and vertebrate fossil proxies: Geological Society of America, Abstracts with Programs, v. 46, no. 6, p. 617.
- Ludvigson, G. A., Joeckel, R. M., González, L. A., Murphy, L. R., Suarez, C. A., and Stockli, D. F., 2014, Integration of  $\delta^{13}\text{C}$  chemostratigraphy and U/Pb dating of Early Cretaceous terrestrial deposits of the Cedar Mountain Formation in Utah; *in*, Mid-Mesozoic: The Age of Dinosaurs in Transition Conference, J. Kirkland, J. Foster, R. Hunt-Foster, G. Liggett, and K. Trujillo, eds.: Museum of Western Colorado, Fruita, Colorado, April 30–May 5, 2014, p. 69–70.
- Ludvigson, G. A., Smith, J. J., Doveton, J., Mandel, R., Murphy, L., Layzell, A., Stotler, R. L., and Sleezer, R., 2014, Characterization of cored sediments from the High Plains aquifer in Kansas: Governor's Conference on the Future of Water in Kansas, November 12–13, 2014, Manhattan, Kansas.  
[http://www.kwo.org/Ogallala/Governors\\_Conference/2014/Day2\\_ppt/Ludvigson%20et%20al-%20Characterization%20of%20Cored%20Sediments.pdf](http://www.kwo.org/Ogallala/Governors_Conference/2014/Day2_ppt/Ludvigson%20et%20al-%20Characterization%20of%20Cored%20Sediments.pdf)
- Ludvigson, G. A., Smith, J. J., Doveton, J. D., Mandel, R., Murphy, L., Layzell, A., Stotler, R. L., and Sleezer, R., 2014, Sedimentologic and stratigraphic characterization of cored sediments from the High Plains aquifer system of western Kansas: 59th annual Midwest Ground Water Conference, Lawrence, Kansas, October 1, 2014.
- Ludvigson, G. A., Smith, J. J., Doveton, J. D., Mandel, R., Murphy, L., Layzell, A., Stotler, R. L., and Sleezer, R., 2014, Sedimentologic and stratigraphic characterization of cored sediments from the High Plains aquifer system of western Kansas: Third Annual Governor's Conference on the Future of Water in Kansas.
- Ludvigson, G., Smith, J. J., Joeckel, R. M., Möller, A., and Feldman, J., 2014, Development of a scientific drilling program in Cenozoic strata of the Great Plains in Kansas and Nebraska: Geological Society of America, North-Central Section Meeting, Abstracts with Programs, v. 46, no. 4, p. 57.

- Macpherson, G. L., Brookfield, A. E., and Long, J., 2014, Negative feedback to climate warming: How shifts in recharge timing can affect shallow groundwater temperature, Konza Prairie LTER Site, Northeastern Kansas: Presentation with abstract, Geological Society of America Annual Meeting, Vancouver, British Columbia, October 19–22.
- Newell, K. D., and Merriam, D. F., 2014, The Salina basin of Kansas and Nebraska: Abstracts and Proceedings of the Geological Society of America North-Central Section Annual Meeting, Lincoln, Nebraska, April 24–25, v. 46, no. 2, p. 23.
- Oborny, S. C., Ludvigson, G. A., Sawin, R. S., Henthorne, R., Heckel, P. H., and Cramer, B. D., 2014, High-resolution Missourian (Upper Pennsylvanian) stratigraphy of Miami County, Kansas: Integrated lithostratigraphy, biostratigraphy, and  $\delta^{13}\text{C}_{\text{CARB}}$  chemostratigraphy: Geological Society of America, Abstracts with Programs, v. 46, no. 6, p. 833.
- Richey, J. D., Upchurch, G. R., Suarez, M. B., Joeckel, R. M., Ludvigson, G., Smith, J. J., and Lomax, B. H., 2014, Changes in stomatal index during OAE1d: A comparison to other carbon cycle perturbations of the Mesozoic: Annual Fall Meeting of the American Geophysical Union, San Francisco, California, PP13A-1401.
- Ross, J. B., Ludvigson, G. A., González, L. A., and Walker, J. D., 2014, Stable isotope paleohydrology of pedogenic carbonates in the Wayan and Blackleaf formations (mid-Cretaceous) of Idaho and Montana; *in*, Mid-Mesozoic: The Age of Dinosaurs in Transition Conference, J. Kirkland, J. Foster, R. Hunt-Foster, G. Ligget, and K. Trujillo, eds.: Museum of Western Colorado, Fruita, Colorado, April 30–May 5, 2014, p. 74.
- Smith, J. J., Ludvigson, G., Möller, A., Feldman, J., Harlow, H., Doveton, J., Rittenour, T., and Platt, B., 2014, Developing a paleosol geochronometer: Examples from Cenozoic strata of the High Plains of the western United States: American Association of Petroleum Geologists Annual Convention, Official Program Abstracts CD, Abstract No. 1842182.
- Smith, J. J., Sleezer, R. O., Ludvigson, G. A., Duarte, A. M., and Platt, B. F., 2014, Preliminary results of litho- and chronostratigraphic investigations of the McPherson Channel deposits in south-central Kansas: Geological Society of America, Abstracts with Programs, v. 46, no. 4, p. 57.
- Stotler, R. L., Katz, B. S., Butler, J. J., Whittemore, D. O., Reboulet, E. C., Hirmas, D. R., Smith, J. J., and Ludvigson, G. A., 2014, Recharge in the High Plains aquifer: Physical and chemical data: Goldschmidt 2014 Conference, Sacramento, California, June 8–13, 2014.
- Stotler, R. L., Katz, B. S., Hirmas, D. R., Whittemore, D. O., Butler, J. J., Jr., Smith, J. J., and Ludvigson, G., 2014, Understanding recharge patterns in the High Plains aquifer, Kansas: Governor's Conference on the Future of Water in Kansas, November 12–13, 2014, Manhattan, Kansas.  
[http://www.kwo.org/Ogallala/Governors\\_Conference/2014/Day2\\_ppt/Stotler%20et%20al-%20Understanding%20Recharge%20Patterns.pdf](http://www.kwo.org/Ogallala/Governors_Conference/2014/Day2_ppt/Stotler%20et%20al-%20Understanding%20Recharge%20Patterns.pdf)
- Stover, S., Brookfield, A., and Gnau, C., 2014, Water management improvement strategies for the Kansas Lower Republican River Basin: Presentation with published abstract. NGWA Groundwater Summit, Denver, Colorado, May 4–7.
- Suarez, M. B., González, L. A., Ludvigson, G. A., and You, H. L., 2014, Evaluation of clumped isotope paleotemperatures across carbon isotope excursions from lacustrine strata of the Aptian Xiagou Formation, China: Annual Fall Meeting of the American Geophysical Union, San Francisco, California, PP13A-1399.
- Suchy, D. R., Wilson, B., Adkins-Heljeson, D., and Stewart, D. L., 2014, Groundwater management resources and tools on the Kansas Geological Survey website (abst.): 59<sup>th</sup> Annual Midwest Ground Water Conference, Lawrence, Kansas, Program and Abstracts, p. 28–29.
- Thompson, A., Stotler, R. L., and Liu, G., 2014, Effect of flow rate on physical, chemical and biological clogging processes in column flow-through experiments: 2014 NGWA Ground Water Summit, Denver, Colorado.
- Trevino, S. F., Zeigler, K. E., Petronis, M., Smith, J. J., Ludvigson, G. A., and Doveton, J. H., 2014, Developing a refined magnetostratigraphy for the White River Group and Ogallala Formation in southwestern Kansas: Preliminary results from the High Plains–Ogallala drilling project: Geological Society of America, Abstracts with Programs, v. 46, no. 4, p. 52.
- Upchurch, G. R., Richey, J., Joeckel, R. M., Suarez, M., Ludvigson, G. A., and Smith, J. J., 2014, Stratigraphy of the Rose Creek Pit, Dakota Formation of Nebraska: Implications for the minimum age of Pentaletalae and Lauraceae: Ninth European Palaeobotany and Palynology conference in Padova, Italy, Abstracts with Program.
- Walsh, D. O., Grunewald, E. D., Barrows, M. B., Butler, J. J., Jr., Liu, G., Knobbe, S., Reboulet, E. C., Knight, R. K., and Parsekian, A., 2014, Estimation of hydraulic conductivity in unconsolidated near-surface aquifers using NMR geophysics: 2014 NGWA Ground Water Summit, Denver, Colorado.

- Whittemore, D. O., 2014, The Dakota aquifer and aquifers with naturally saline water (invited), Governor's Conference on Future of Water in Kansas, Manhattan, Kansas, available at [http://www.kwo.org/Ogallala/Governors\\_Conference/2014/Oral%20abstracts.pdf](http://www.kwo.org/Ogallala/Governors_Conference/2014/Oral%20abstracts.pdf).
- Whittemore, D. O., 2014, Development of an endorheic basin in the watershed of the upper Arkansas River, USA: Geological Society of America Abstracts with Programs, v. 46, no. 6, p 410.
- Whittemore, D. O. and Kettle, W. D., 2014, Symposium overview—Ecohydrology and climate change at Kansas natural areas and research stations: Transactions of the Kansas Academy of Science, v. 117, no. 1/2, p. 142, <http://www.bioone.org/doi/pdf/10.1660/062.117.0120>.
- Whittemore, D. O., Liu, G., Wilson, B. B., and Butler, J. J., Jr., 2014, Types of recharge incorporated in groundwater models of the High Plains aquifer (invited), Governor's Conference on the Future of Water in Kansas, Manhattan, Kansas, [http://www.kwo.org/Ogallala/Governors\\_Conference/2014/Oral%20abstracts.pdf](http://www.kwo.org/Ogallala/Governors_Conference/2014/Oral%20abstracts.pdf).
- Wilson, B. B., Liu, G., Bohling, G., Whittemore, D. O., Butler, J. J., Jr., 2014, Developing a groundwater model for the High Plains aquifer in west-central Kansas: Hydrostratigraphic characterization and delayed recharge: Program and Abstracts, 59th Annual Midwest Ground Water Conference, Lawrence, Kansas, p. 40–41.
- Wilson, B., Suchy, D. R., Adkins-Heljeson, D., and Butler, J., 2014, Online groundwater resources and tools from the Kansas Geological Survey (abst.): Governor's Conference on the Future of Water in Kansas, Manhattan, Kansas.

## **Presentations**

- Bidgoli, T. S., Amir, E., Walker, J. D., Stockli, D. F., Andrew, J. E., and Caskey, J. S., 2014, Space-time patterns and geodynamic drivers of Miocene to Pliocene strain in Death Valley, CA from low temperature thermochronology, Geological Society of America, Fall Meeting, Vancouver, British Columbia, Canada, October 21, 2014.
- Bidgoli T. S., Watney, W. L., Gerlach, P., and Nguyen, M. P., 2014, Episodic reactivation of critically-stressed basement faults in southern Kansas: Implications for waste-water disposal and long-term storage of CO<sub>2</sub>: GSA Annual Meeting, Vancouver, British Columbia, [https://gsa.confex.com/gsa/2014AM/finalprogram/abstract\\_249152.htm](https://gsa.confex.com/gsa/2014AM/finalprogram/abstract_249152.htm).
- Bidgoli, T. S., Watney, W. L., and Holubnyak, E., 2014, Earthquakes in the southern midcontinent: What we know and what we need to know—Current research at KU and the Kansas Geological Survey, Kansas Geological Society, Wichita, Kansas, December 2, 2014.
- Birdie, T., Watney, W. L., and Gerlach, P., 2014, Using drill stem test data to construct regional scale potentiometric surface in deep aquifers: NGWA Annual Summit, Brine and Deep Aquifers, Denver, Colorado.
- Birdie, T., Watney, L., Gerlach, P., Killion, M., Raney, J., Holubnyak, E., Bidgoli, T., Williams, G., Nguyen, M., and Wilson, B., 2014, The impacts of carbon dioxide storage in the saline Arbuckle aquifer on water quality in freshwater Aquifers in Kansas, Midwest Groundwater Association Conference, Lawrence, Kansas, October 1, 2014 [http://www.kgs.ku.edu/PRS/Ozark/Reports/2014/MGWA\\_2014\\_Arbuckle\\_Freshwater\\_Aquifers\\_TBirdie.pdf](http://www.kgs.ku.edu/PRS/Ozark/Reports/2014/MGWA_2014_Arbuckle_Freshwater_Aquifers_TBirdie.pdf).
- Brookfield, A. E. 2014, Simulating integrated water management in the Lower Republican River Basin, Kansas. IRTG Integrated Hydrosystem Modeling, Department of Geosciences, University of Tübingen, Germany, July 1.
- Brookfield, A. E., 2014, Midwest Groundwater Conference.
- Brookfield, A. E., 2014, convened session, GSA Annual Meeting.
- Brookfield, A. E., 2014, invited speaker and visitor to IRTG University of Tuebingen
- Doveton, J. H., and Watney, W. L., 2014, Petrophysical imagery of the Oread Limestone in subsurface Kansas: North-Central GSA, Lincoln, Nebraska, <https://gsa.confex.com/gsa/2014NC/webprogram/Paper237642.html>
- Franseen, E. K., 2014, Co-instructor for AAPG Education Program: Controls on Porosity Types and Distribution in Carbonate Reservoirs, Almeria, Spain, June 1–6, 2014.
- Franseen, E. K., 2014, Integrated approaches to unconventional reservoir assessment & optimization (invited featured speaker) Mississippian Lime Play, 2014 Applied Geoscience Conference, Houston Geological Society, February 17–18, 2014, Houston, Texas.
- Franseen, E. K., 2014, Organizer and convener, 2014 Kansas Interdisciplinary Carbonates Consortium (KICC) Annual Meeting.
- Franseen, E. K., 2014, Organizer and convener, SEPM Strategic Plan meeting, May 2014.
- Franseen, E. K., 2014, Reservoir character of the Avalon Shale (Bone Spring Formation) of the Delaware Basin, West Texas and Southeast New Mexico: Effect of carbonate-rich sediment gravity flows (invited presentation):

- BHP-Billiton Oil Company, Houston, Texas, August 18, 2014.
- Holubnyak, Y., Rush, J., Watney, W., 2014, Evaluation dynamic simulations of the Volumetric Curvature Tool for modeling reservoir compartments and leakage pathways in the Arbuckle saline aquifer: GHGT-12 Austin, Texas. <http://www.ghgt.info/index.php/Content-GHGT12/poster-sessions.html>
- Li, Z., Goldstein, R. H., and Franseen, E. K., 2014, Ascending freshwater-mesohaline mixing: A new model for dolomitization: Kansas Interdisciplinary Carbonate Consortium Annual Review Meeting. EXTENDED ABSTRACT
- Nguyen, M. C., Tsau, I.-S., Franseen, E. K., and Goldstein, R. H., 2014, A reservoir-analog model study of scale up processes for facies distributions and connected volumes in Miocene deep-water carbonate deposits of the Agua Amarga Basin, SE Spain: Kansas Interdisciplinary Carbonate Consortium Annual Review Meeting. EXTENDED ABSTRACT
- Ortega-Ariza, D., and Franseen, E. K., 2014, A new strontium isotope stratigraphy for Upper Oligocene-Upper Miocene carbonate systems in Puerto Rico and the Dominican Republic: Kansas Interdisciplinary Carbonate Consortium Annual Review Meeting. EXTENDED ABSTRACT
- Ortega-Ariza, D., and Franseen, E. K., 2014, Nutrients in the Miocene Caribbean Sea: A significant control on carbonate systems in the region? The role of depositional setting: Kansas Interdisciplinary Carbonate Consortium Annual Review Meeting. EXTENDED ABSTRACT
- Pugliano, T., Goldstein, R. H., and Franseen, E. K., 2014, Sedimentologic and reservoir character of abraded-upward cycles: Fundamentals of heterozoan carbonate reservoirs: Kansas Interdisciplinary Carbonate Consortium Annual Review Meeting. EXTENDED ABSTRACT
- Smith, J. J., 2014, Getting to the bottom of the Ogallala: Scientific drilling in the High Plains of Western Kansas, University of Mississippi, April 17, 2014.
- Smith, J. J., 2014, Lessons from the living: Two Neolithic case studies, New Mexico Highlands University, October 24, 2014.
- Suchy, D. R., Wilson, B., Adkins-Heljeson, D., and Stewart, D. L., 2014, Groundwater management resources and tools on the Kansas Geological Survey website (poster): 59<sup>th</sup> Annual Midwest Ground Water Conference, October 1, 2014, Lawrence, Kansas.
- Stewart, D. L., and Suchy, D. R., 2014, Coordinate systems: Latitude, longitude and datum for water well completion forms: KDHE Geology and Well Technology Section Fall 2014 Seminar, Wichita, Kansas, September 10, 2014.
- Stolz, D., Franseen, E. K., and Goldstein, R. H., 2014, Reservoir character of the Avalon Shale (Bone Spring Formation) of the Delaware Basin, West Texas and Southeast New Mexico: Effect of carbonate-rich sediment gravity flows: Kansas Interdisciplinary Carbonate Consortium Annual Review Meeting. EXTENDED ABSTRACT
- Watney, W. L., 2014, Fluid migration and accumulation within the Mississippian: Why 2% oil cut here, 15% one mile away? AAPG Search and Discovery Article #90201 © AAPG Education Directorate Mississippi Lime Forum, February 20, 2014.
- Watney, W. L., Bidgoli, T. S., and Holubnyak, E., 2014, Earthquakes in the southern midcontinent: What we know and what we need to know—Current research at KU and the Kansas Geological Survey, [http://www.kgs.ku.edu/PRS/Seismicity/KS\\_Geo\\_Society\\_Talk\\_12022014.pdf](http://www.kgs.ku.edu/PRS/Seismicity/KS_Geo_Society_Talk_12022014.pdf).
- Watney, W. L., Birdie, T., Doveton, J., Rush, J., Fazelalavi, M., Holubnyak, Y., Scheffer, A., Hedke, D., Datta, S., and Roberts, J., 2014, Integrating modern suite of geophysical logs, geochemistry, and seismic data for characterizing deep aquifers, tools, techniques and methods session: NGWA Annual Summit, Denver, Colorado. [http://www.kgs.ku.edu/PRS/Ozark/Reports/2014/NGWA\\_Integrating\\_logs\\_geochemistry.pdf](http://www.kgs.ku.edu/PRS/Ozark/Reports/2014/NGWA_Integrating_logs_geochemistry.pdf)
- Watney, W. L., Birdie, T., Holubnyak, Y., Rush, J., Fazelalavi, M., Doveton, J., Hansen, T., Walker, C., Cooper, K., Wreath, D., and Raney, J., 2014, Geologic carbon storage in the Lower Ordovician Arbuckle Group saline aquifer in Kansas: NGWA Annual Summit, Brine and Deep Aquifers, Denver, Colorado, <https://ngwa.confex.com/ngwa/2014gws/webprogram/Paper9776.html>
- Watney, W. L., and Rush, J., 2014, Small scale field test demonstrating CO<sub>2</sub> sequestration in Arbuckle saline aquifer and by CO<sub>2</sub>-EOR at Wellington Field, Sumner County, Kansas, Project Number (DE-FE0006821): Carbon Storage R&D Project Review Meeting, DOE-NETL, August 20–22, Pittsburgh [http://www.kgs.ku.edu/PRS/Ozark/SmallScale/2014/Watney-Raney\\_DE-FE0006821\\_2014\\_CarbonStoragePittsburgh.pdf](http://www.kgs.ku.edu/PRS/Ozark/SmallScale/2014/Watney-Raney_DE-FE0006821_2014_CarbonStoragePittsburgh.pdf)
- Watney, W. L., Rush, J., and Raney, J., 2014, Carbon storage and utilization in Kansas—Are we ready?: Kansas Next Step Oil and Gas Conference, Hays, Kansas. [http://www.kgs.ku.edu/PRS/Ozark/Reports/2014/Watney\\_Ks\\_nextstep\\_Aug7\\_2014\\_v2.pdf](http://www.kgs.ku.edu/PRS/Ozark/Reports/2014/Watney_Ks_nextstep_Aug7_2014_v2.pdf)

- Watney, W. L., Rush, J., and Raney, J., 2014, Modeling CO<sub>2</sub> sequestration in saline aquifer and depleted oil reservoir to evaluate regional CO<sub>2</sub> sequestration potential of Ozark Plateau Aquifer System, South-Central Kansas, Project Number (DE-FE0002056): Carbon Storage R&D Project Review Meeting, DOE-NETL, August 20–22, Pittsburgh [http://www.kgs.ku.edu/PRS/Ozark/Reports/2014/Watney-Raney\\_DE-FE0002056\\_2014\\_CarbonStorage.pdf](http://www.kgs.ku.edu/PRS/Ozark/Reports/2014/Watney-Raney_DE-FE0002056_2014_CarbonStorage.pdf)
- Whittemore, D. O., 2014, Development of an endorheic basin in the watershed of the upper Arkansas River, USA: Geological Society of America Annual Meeting, Vancouver, British Columbia, October 20, 2014.
- Whittemore, D. O., 2014, Water quality of the upper Arkansas River and impact on aquifer water quality: to local cities and agencies, U.S. Bureau of Reclamation, Southwest Groundwater Management District No. 3, and Kansas Water Office, Garden City and Lakin, Kansas, February 25; Syracuse, Kansas, February 26; and Holly, Colorado, February 27, 2014.
- Whittemore, D. O., and Kettle, W. D., 2014, Symposium overview—Ecohydrology and climate change at Kansas natural areas and research stations: Kansas Academy of Science Annual Meeting, April 4, 2014.
- Whittemore, D. O., and Wilson, B. B., 2014, The Kansas River alluvial aquifer as a managed reservoir system: 23rd Annual Kansas Hydrology Seminar, Topeka, Kansas, November 23, 2014.
- Wilson, B. B., 2014, 50-Year Vision Planning Meetings (Colby, Goodland, Lawrence).
- Wilson, B. B., 2014, Governor's Conference on Water and the Future of Kansas.
- Wilson, B. B., 2014, Hays Rotary Club.
- Wilson, B. B., 2014, Kansas Corn Growers Annual Meeting.
- Wilson, B. B., 2014, Kansas Energy Conference.
- Wilson, B. B., 2014, Kansas Environmental Conference.
- Wilson, B. B., 2014, Kansas Groundwater Association Conference.
- Wilson, B. B., 2014, Kansas Rural Water Association Conference.
- Wilson, B. B., 2014, Midwest Groundwater Conference.
- Wilson, B. B., 2014, Northwest GMD4 Board Meeting.
- Wilson, B. B., 2014, Southwest Kansas GMD3 Annual Meeting.
- Wilson, B. B., 2014, Southwest Kansas GMD3 County LEMA Meetings (Dodge City, Plains, Sublette, Hugoton, Lakin).
- Wilson, B. B., 2014, Southwest Kansas Irrigation Association Annual Meeting.
- Wilson, B. B., 2014, USDA Lane County Conservation District.
- Wilson, B. B., 2014, Western Kansas GMD1 (Board Meeting and Model Advisory Committee).
- Wilson, B., Suchy, D. R., Adkins-Heljeson, D., and Butler, J., Online groundwater resources and tools from the Kansas Geological Survey: Governor's Conference on the Future of Water in Kansas, Manhattan, Kansas, November 13, 2014.

## **Awards & Honors**

- Bidgoli, T. S.—University of Kansas, Erasmus Haworth Graduate Honors in Geology, 2014
- Bidgoli, T. S.—University of Kansas, Geology Department, Ph.D. Final Examination, Pass with Honors, 2014
- Franseen, E. K.—2014 E.F. Schramm Lecturer, University of Nebraska-Lincoln.
- Franseen, E. K.—SEPM 2014–2015 Past president of SEPM, the International Society for Sedimentary Geology.
- Franseen, E. K.—SEPM 2013–2014 President of SEPM, the International Society for Sedimentary Geology.
- Ludvigson, G. A.—2014–2015: Principal investigator, Geologic Mapping in Kansas for FY14. United States Geological Survey, STATEMAP Program Contract No. G14AC00226. Co-PIs are R.D. Mandel, K.D. Newell, R.S. Sawin, W.C. Johnson, J.W. Dunham, J.J. Smith, and R. Stotler. Federal and state match totaling to \$308,293.
- Ludvigson, G. A.—2013–2014: Principal investigator, Geologic Mapping in Kansas for FY13. United States Geological Survey, STATEMAP Program Contract No. G13AC00168. Co-PIs are R.D. Mandel, K.D. Newell, R.S. Sawin, W.C. Johnson, J.W. Dunham, J.J. Smith, and R. Stotler. Federal and state match totaling to \$223,129.
- Liu, G.—Aquifer storage and recovery in near-surface aquifers: Development of a new recharge approach using small-diameter, low-cost wells: NIWR/USGS National Competitive Grant Program, \$177,336, 2011–2014. (\$83,377 for 2014).
- Suchy, D. R.—National Geological and Geophysical Data Preservation Program Grant to Data Resources Library and Wichita Well Sample Library, Kansas Geological Survey, Daniel R. Suchy, PI; administered through U. S. Geological Survey, 2014–2015, \$50,006.



## **Internal Service**

Bidgoli, T. S.— Outreach Coordinator Search Committee (member)  
Bidgoli, T. S.—Supervisor, KGS-Energy Research Section intern Minh C. Nguyen  
Brookfield, A. E.—Geohydrology Geochemist Search Committee (member)  
Brookfield, A. E.—KU CSRS representative  
Evans, C. S.—Outreach Coordinator Search Committee (co-chair)  
Franseen, E. K.— Stratigraphic Nomenclature Committee (member)  
Franseen, E. K.—Editorial Board for Current Research on Kansas Geology Bulletin (member)  
Ludvigson, G. A.— KGS Promotion and Review Committee (chair)  
Ludvigson, G. A.— KGS Stratigraphic Nomenclature Committee (member)  
Sawin, R. S.—KGS Stratigraphic Nomenclature Committee (chair)  
Sawin, R. S.—Outreach Coordinator Search Committee (co-chair)  
Sawin, R. S.—Petroleum Geoscientist Search Committee (member)  
Sawin, R. S.—Merriam Research Award Committee (member)  
Smith, J. J.—Helped coordinate and participated in the Kansas Geological Mapping Advisory Committee (KGMAC) meetings on May 28 and September 12, 2014  
Smith, J. J.—Performed 13 agency reviews on potential environmental concerns for proposed construction and improvement projects in Kansas as requested by federal, state, and private agencies as part of their environmental due diligence requirements (supervised by Dan Suchy).  
Watney, W.L., Associate Director Search Committee (member)

## **External Service**

Adkins-Heljeson, D.— Earth Day Celebration and Water Festival, Lawrence, Kansas.  
Adkins-Heljeson, D.—Oil and gas data on the KGS website, log scanning and materials and resources in the Data Resources Library, presentation to University of Kansas Geology 535 class  
Bidgoli, T. S.—Member, AAPG Grant-In-Aid Committee, 2014–present  
Bidgoli, T. S.—Member, AAPG, Education Committee, 2014–present  
Bidgoli, T. S.—Co-chair, M.S. thesis committee for KU graduate student Andrew (Drew) Schwab  
Bidgoli, T. S.—Co-chair, M.S. thesis committee for KU graduate student James P. Tyrrell  
Bidgoli, T. S.—Teaching Aid, Core Workshop for KU—OSHER Lifelong Learning Institute, 2014  
Brookfield, A. E.— Newsletter editor, Hydrogeology Division of Geological Society of America  
Brookfield, A. E.— Associate Editor, Ground Water  
Brookfield, A. E.— Courtesy Assistant Professor, University of Kansas Geology Department  
Brookfield, A. E.— WRAPS Representative  
Brookfield, A. E.—Professional reviews for Water Resources Research (3 manuscripts), Ground Water (3 manuscripts), Journal of Hydrologic Engineering (2 manuscripts), HESS (1 manuscript), Journal of Hydrology (1 manuscript), Deutsche Forschungsgemeinschaft (DFG) (1 proposal), NSF Hydro Division (1 proposal)  
Brookfield, A. E.—Served on 2 doctoral and 2 master's committees, University of Kansas Geo/Eng  
Franseen, E. K.—Member, Promotion and Tenure Committee, Department of Geology, University of Kansas  
Franseen, E. K.—Member, Graduate Students Admissions Committee, Department of Geology, University of Kansas  
Franseen, E. K.—Member, Search Committee for Geophysicist, Department of Geology, University of Kansas  
Franseen, E. K.—Evaluator, Faculty Teaching, Department of Geology, University of Kansas  
Franseen, E. K.—Advising, Undergraduates, Department of Geology, University of Kansas  
Franseen, E. K.—Chair, University of Kansas graduate committee, (1 doctoral student)  
Franseen, E. K.—Co-chair, University of Kansas graduate committees (4 students)  
Franseen, E. K.—Member, University of Kansas graduate committees (2 doctoral students and 5 master's students)  
Franseen, E. K.—President, SEPM, Society of Sedimentary Research  
Franseen, E. K.—Member, Board of Visitors (Alumni Board), Department of Geology, University of Wisconsin-Madison  
Franseen, E. K.—Chair, SEPM Strategic Plan Committee  
Franseen, E. K.—Chair, SEPM Twenhofel Medal Award Committee  
Franseen, E. K.—Member, SEPM Student Research Grant Evaluation Committee

Laflen, D.—Earth Day Celebration and Water Festival, Lawrence, Kansas.

Liu, G.—M.S. committee, two students in Department of Geology, University of Kansas

Liu, G.—Student paper judge at American Geophysical Union annual meeting

Ludvigson, G. A.—Topical session organizer, Topical Session T120 on Proxies for Paleoprecipitation. Annual Meeting of the Geological Society of America, Vancouver, British Columbia, Oct. 19–22, 2014

Ludvigson, G. A.—Theme session organizer, Theme session on Cenozoic Stratigraphy of the Great Plains, North-Central Section meeting, Geological Society of America, Lincoln, Nebraska, April 24–25, 2014

Ludvigson, G. A.—Elected Sedimentology Councilor, SEPM, The Society for Sedimentary Geology

Ludvigson, G. A.—Sedimentary Geology Division Representative, Joint Technical Program Committee, Geological Society of America

Ludvigson, G. A.—University of Kansas graduate thesis committee service: Matthew Meyers, MS, 2014; Michael Waynick, MS, 2014; Tony Layzell, Ph.D. candidate; Jeffrey Ross, M.S. candidate; Holly Field, M.S. candidate; Brian Sitek, M.S. candidate; Brittanry Hendrix, M.S. candidate; Julianne Emry, Ph.D. candidate; Thomas Neal, M.S. candidate; Jason Hallman, M.S. candidate

Lyle, S.—Earth Day Celebration and Water Festival, Lawrence, Kansas.

Potter, N.—Earth Day Celebration and Water Festival, Lawrence, Kansas.

Reboullet, E.—Earth Day Celebration and Water Festival, Lawrence, Kansas.

Sawin, R. S.—Member, Kansas State University Geology Advisory Council (1995–present).

Smith, J. J.—Session Co-Chair, Cenozoic Stratigraphy of the Great Plains, North-Central Section Annual Meeting of the Geological Society of America

Smith, J. J.—Participant, KU Water Research Community Team Leads meetings, January 3 and March 13, 2014

Smith, J. J.—Co-leader (with Randy Stotler), High Plains Working Group

Stewart, D. L.—Oil and gas data on the KGS website, log scanning and materials and resources in the Data Resources Library, presentation to University of Kansas Geology 535 class

Stewart, D. L.—Earth Day Celebration and Water Festival, Lawrence, Kansas.

Suchy, D. R.—Research Senator, Unclassified Professional Staff Senate, University of Kansas (2012–present).

Suchy, D. R.—Member and Vice-Chairman, Board of Directors, Rural Water District #5, Douglas County, Kansas (2007–present).

Suchy, D. R.—Member and Treasurer, Board of Directors, Public Wholesale Water Supply District #25, Douglas and Osage Counties, Kansas (2007–present).

Watney, W. L.—AAPG Education Committee

Watney, W. L.—Student research review, SEPM

Watney, W. L.—Advising of students – Co-Advise Luis Montalvo with Luis Gonzalez; committee member for Allison Joy, Becky Doward, Clyde Redger, Yousuf Fadolkarem, Christa Jackson, Brent Campbell (KSU)

Whittemore, D. O.—Organized, with Dean Kettle of the Kansas Biological Survey, the Symposium on Ecohydrology and Climate Change at Kansas Natural Areas and Research Stations, held at Kansas Academy of Science Annual Meeting, Emporia, KS, April 4, 2014.

Whittemore, D. O.—Main organizer and coordinator of 59<sup>th</sup> Annual Midwest Groundwater Conference and field trip, Lawrence, Kansas, September 30–October 2, 2014.

Whittemore, D. O.—Council Member, Kansas Academy of Science

Whittemore, D. O.—Member, Upper Arkansas River Conservation Reserve Enhancement Program (CREP) Steering Committee

Whittemore, D. O.—Member, Molly Long M.S. committee, Department of Geology, University of Kansas (degree received 2014)

Whittemore, D. O.—Member, Jose Solis Ph.D. committee, University of Colorado, (comprehensives passed 2014)

Whittemore, D. O.—Geochemical identification of saltwater source, for Kansas Corporation Commission

Wilson, B. B.—Presentation to University of Kansas GEOG558 class.

Wilson, B. B.—Presentation for University of Kansas mini-wheat state tour.

### **Computer Software:**

Victorine, J. R., 2014, Hingle & Pickett Plots Web Site (<http://www.kgs.ku.edu/software/Pf/>).

Victorine, J. R., 2014, Gamma Ray Colorlith Cross Section Web Site ([http://www.kgs.ku.edu/stratigraphic/GR\\_CROSS\\_SECTION/](http://www.kgs.ku.edu/stratigraphic/GR_CROSS_SECTION/)).

Victorine, J. R., 2014, Brine Data Plot & Data Entry (<http://www.kgs.ku.edu/stratigraphic/BRINE/>).

Wilson, B. B., 2014, Numerical Groundwater Model for Western Kansas Groundwater Management District.

**Website**

- Placed 13 bulletins and 7 books from other series online.
- Placed, or replaced, 3 Public Information Circulars online.
- Placed all 2014 open-file reports (that were suitable for the web) online. In addition, added several from earlier years (mostly from the 1990s) for a total of 20.
- Scanned 17,685 water well records.
- Scanned 11,000 wireline logs.
- Added 5,909 other oil and gas documents.

### Refereed Publications

- Bailey, B. B., Miller, R. D., Peterie, S., and Ivanov, J., 2013, Implications of Vp/Vs ratio on shallow P and S reflection correlation and lithology discrimination [Exp. Abs.]: Annual Meeting of the Society of Exploration Geophysicists, Houston, Texas, p. 1,944–1,949.
- Butler, J. J., Jr., Stotler, R. L., Whittemore, D. O., and Reboulet, E. C., 2013, Interpretation of water-level changes in the High Plains aquifer in western Kansas: *Groundwater*, v. 51, no. 2, p. 180–190, doi: 10.1111/j.1745-6584.2012.00988.x.
- Dvoretzky, R. A., Goldstein, R. H., Franseen, E. K., and Byrnes, A., in press, Reservoir-analog modeling of focused-flow and dispersed-flow deepwater carbonates: Miocene Agua Amarga Basin, Southeast Spain: SEPM Special Publication, Deposits, Architecture and Controls of Carbonate Margin, Slope, and Basin Systems.
- Goldstein, R. H., Franseen, E. K., and Lipinski, C. J., 2013, Topographic and sea-level controls on oolite-microbialite-coralgal reef sequences: The terminal carbonate complex of Southeast Spain: *AAPG Bulletin*, v. 97, pp. 1,997–2,054.
- Haney, M. M., and Miller, R. D., 2013, Introduction to this special section—Nonreflection seismic and inversion of surface and guided waves: *Leading Edge*, v. 32, n. 6, p. 610–611.
- Ivanov, J., Schwenk, J. T., Miller, R. D., and Peterie, S., 2013, Dispersion-curve imaging nonuniqueness studies from multi-channel analysis of surface waves (MASW) using synthetic seismic data [Exp. Abs.]: Annual Meeting of the Society of Exploration Geophysicists, Houston, Texas, p. 1,794–1,800.
- Judy, B., and Miller, R. D., 2013, Geoforensic analysis of high-resolution seismic reflection data to unravel the complex past of natural salt dissolution features in the upper 250 m [Exp. Abs.]: Annual Meeting of the Society of Exploration Geophysicists, Houston, Texas, p. 1,934–1,938.
- Li, Z., Goldstein, R. H., and Franseen, E. K., in press, A model for dolomitization of carbonate platforms: Ascending freshwater-mesohaline mixing, La Molata, Spain: Geological Society London Special Publication.
- Li, Z., Goldstein, R. H., and Franseen, E. K., 2013, Ascending freshwater-mesohaline mixing: A new scenario for dolomitization: *Journal of Sedimentary Research*, v. 83, p. 277–283.
- Liu, G., Knobbe, S., and Butler, J. J. Jr., 2013, Resolving centimeter-scale flows in aquifers and their hydrostratigraphic controls: *Geophysical Research Letters*, v. 40, p. 1098–1103, doi:10.1002/grl.50282.
- Lipinski, C. J., Franseen, E. K., and Goldstein, R. H., 2013, Reservoir analog model for oolite-microbialite sequences, Miocene Terminal Carbonate Complex, Spain: *AAPG Bulletin*, v. 97, pp. 2,035–2,057.
- Ludvigson, G. A., González, L. A., Fowle, D. A., Roberts, J. A., Driese, S. G., Villarreal, M. A., Smith, J. J., and Suarez, M. B., 2013, Paleoclimatic applications and modern process studies of pedogenic siderite; in: S. Driese and L. Nordt, eds., *New Frontiers in Paleopedology and Terrestrial Paleoclimatology*: SEPM Special Publication No. 104, p. 79–87. DOI: 10.2110/sepm.sp.104.01
- Miller, R. D., 2013, Introduction to this special section—Urban geophysics: *Leading Edge*, v. 32, n. 3, p. 248–249.
- Miller, R. D., 2013, Near-surface applied geophysics: Unraveling mysteries of and characterizing geohazards, groundwater, archaeology, and engineering [Keynote Presentation]: *Proceedings of the Second International Conference on Engineering Geophysics*, p. 24–29.
- Miller, R. D., Luczaj, J., and Evans, T. J., 2013, Delineating shallow basement faults on high-resolution seismic reflection data plagued with extreme static in NE Wisconsin, USA [Exp. Abs.]: Annual Meeting of the Society of Exploration Geophysicists, Houston, Texas, p. 1,718–1,722.
- Miller, R. D., and Singha, K., 2013, Introduction to this special section—Hydrogeophysics: *Leading Edge*, v. 32, n. 7, p. 740–741.
- Nolan, J. J., Miller, R. D., Ivanov, J., Peterie, S., and Lindgren, E., 2013, Near-surface salt dissolution void identification using passive MASW [Exp. Abs.]: Annual Meeting of the Society of Exploration Geophysicists, Houston, Texas, p. 2,212–2,217.
- Ortega-Ariza, D., Santos-Mercado, H., Franseen, E. K., and Ramírez-Martínez, W., 2013, Las Calizas de la Costa Norte de Puerto Rico: *Espeleo Revista Puerto Rico*, Federacion Espeleologica de Puerto Rico, Junio-Diciembre 2013, p. 6–17.
- Ramaker, E. M., Goldstein, R. H., Franseen, E. K., and Watney, W. L., in press, What controls porosity in cherty fine-grained carbonate reservoir rocks? Impact of stratigraphy, unconformities, structural setting and hydrothermal fluid flow: *Mississippian, southeast Kansas: Petroleum Geoscience Special Volume*.

- Sawin, R. S., Franseen, E. K., Ludvigson, G. A., Watney, W. L., and West, R. R., 2013, Precambrian nomenclature in Kansas: Kansas Geological Survey, Bulletin 259, pt. 1, 5 p.  
<http://www.kgs.ku.edu/Current/2013/Sawin/index.html>.
- Suarez, C. A., Ludvigson, G. A., González, L. A., Fiorillo, A. R., Flaig, P., and McCarthy P. J., 2013, Use of multiple oxygen isotope proxies for elucidating Arctic Cretaceous paleohydrology; in, A.-V. Bojar, M. C. Melinte-Dobrinescu, and J. Smit, eds., *Isotopic Studies in Cretaceous Research*, Geological Society, London, Special Publications 382, doi 10.1144/SP382.3.
- Suarez, M. B., Ludvigson, G. A., González, L. A., Al-Suwaidi, A. H., and You, H., 2013, Stable isotope chemostratigraphy in lacustrine strata of the Xiagou Formation, Gansu Province, NW China; in, A.-V. Bojar, M. C. Melinte-Dobrinescu, and J. Smit, eds., *Isotopic Studies in Cretaceous Research*: Geological Society, London, Special Publications 382, doi 10.1144/SP382.1.
- Sloan, S. D., Peterie, S. L., Miller, R. D., Ivanov, J., McKenna, J. R., Broadfoot, S. W., and Metheny, O. M., 2013, Tunnel detection using near-surface seismic methods: *GSH Journal*, v. 4, n. 3, p. 13–16.
- Sloan, S. D., Peterie, S. L., Miller, R. D., Snow, T. L., McKenna, J. R., and Metheny, O. M., 2013, In-theater seismic acquisition: Operational examples from a tunnel detection team [Exp. Abs.]: Annual Meeting of the Society of Exploration Geophysicists, Houston, Texas, p. 1,801–1,805.
- Walsh, D., Turner, P., Grunewald, E., Zhang, H., Butler, J. J. Jr., Reboulet, E., Knobbe, S., Christy, T., Lane, J. W. Jr., Johnson, C. D., Munday, T., and Fitzpatrick, A., 2013, A small-diameter NMR logging tool for groundwater investigations: *Groundwater*, v. 51, no. 6, p. 914–926.
- Xia, J., Shen, C., Xu, Y., and Miller, R. D., 2013, Near-surface shear-wave velocities and quality factors derived from high-frequency surface waves: *Proceedings of the Near Surface Geophysics Asia Pacific Conference*, Beijing, China, p. 1–4.
- Zschornack, L., Bohling, G. C., Butler, J. J. Jr., and Dietrich, P., 2013, Hydraulic profiling with the direct-push permeameter: Assessment of probe configuration and analysis methodology: *Journal of Hydrology*, v. 496, p. 195–204.

### **Nonrefereed Publications**

- Butler, J. J., Jr., Whittemore, D. O., Bohling, G. C., Reboulet, E., Stotler, R. L., and Wilson, B. B., 2013, High Plains aquifer index well program: 2012 annual report: Kansas Geological Survey Open-file Report 2013-1, 127 p.
- Cramer, B. D., Vandenbroucke, T. R., and Ludvigson, G. A., in review, Review article: Asking old rocks new questions: High-resolution stratigraphy and the Phanerozoic time scale: submitted as invited review article to *Marine and Petroleum Geology* (submitted March 2013).
- Evans, C. S., and Newell, K. D., 2013, The Mississippian limestone play in Kansas—Oil and gas in a complex geologic setting: Kansas Geological Survey, Public Information Circular 33, 6 p.
- Franseen, E. K., 2013, Presidents comments: *The Sedimentary Record*, SEPM, v. 11, n. 4, December 2013, p. 13.
- Franseen, E. K., 2013, Presidents comments: *The Sedimentary Record*, SEPM, v. 11, n. 3, September 2013, p. 10.
- Franseen, E. K., 2013, Presidents comments: *The Sedimentary Record*, SEPM, v. 11, n. 2, June 2013, p. 11.
- Layzell, A. L., and Evans C. S., 2013, Kansas droughts—Climatic trends over 1,000 years: Kansas Geological Survey, Public Information Circular 35, 6 p.
- Lyle, S. A., Evans, C. S., Buchanan, R. C., and Sawin, R. S., eds., 2013, South-central Kansas—Oil exploration, water allocation, and range management, 2013 Kansas Field Conference, field guide: Kansas Geological Survey, Open-File Report 2013-3, 73 p.
- Ludvigson, G. A., Joeckel, R. M., Murphy, L. R., Stockli, D. F., González, L. A., Suarez, C. A., Kirkland, J. I., and Al-Suwaidi, A., in revision, Review paper: The emerging terrestrial record of Aptian-Albian global change: submitted as invited review paper to *Cretaceous Research*, 32 p.
- Smith, J. J., 2013, Preliminary geology field maps and stratigraphic column, Haskell County, Kansas (Copeland, West of Copeland, and Plains NW USGS 7.5 minute quadrangle): Kansas Geological Survey, Open-File Report 2013-9, 3 sheets, scale 1:24,000.
- Suarez, C. A., González, L. A., Ludvigson, G. A., Kirkland, J. I., Cifelli, R. L., and Kohn, M. J., in review, Multiproxy investigation of paleohydrology in the Early Cretaceous Cedar Mountain Formation, eastern Utah: Deciphering effects of the Nevadaplano plateau on regional climate: *Journal of Sedimentary Research* (submitted April 2013).

Suchy, D. R., 2013, The Mineral industry of Kansas; in, U.S. Geological Survey, 2013, Area Reports—Domestic: U.S. Geological Survey Minerals Yearbook 2009, v. II, p. 18.0–18.5, <http://minerals.usgs.gov/minerals/pubs/state/ks.html>.

## **Computer Software**

Victorine, J. R., 2013, Production Plot & Decline Curve Analysis Web Site (<http://www.kgs.ku.edu/software/production/>).

## **Abstracts**

- Butler, J. J., Jr., Bohling, G. C., Reboulet, E. C., and Olson, J., 2013, Signal not noise: Getting more from water-level responses to barometric-pressure fluctuations: Abstract 9198 presented at 2013 Ground Water Summit, National Ground Water Association, San Antonio, Texas, May 2013.
- Butler, J. J., Jr., Liu, G., Knobbe, S., Reboulet, E., and Dietrich, P., 2013, Subsurface characterization: Some recent developments and future prospects: International Association of Hydrological Sciences, 2013 Joint Assembly Program with Abstracts, Gothenburg, Sweden, July 2013.
- Butler, J. J. Jr., Whittemore, D. O., and Wilson, B. B., 2013, A simple, first-order approach for assessing aquifer response to anthropogenic and climatic stresses: New insights into the future of the High Plains aquifer in Kansas: Abstract H13O-02, American Geophysical Union Meeting, San Francisco, California.
- Duarte, A., Smith, J. J., Sleezer, R. O., Platt, B. F., and Ludvigson, G. A., 2013, Chronostratigraphic investigations of the McPherson Channel deposits in south-central Kansas: Preliminary interpretations from particle size and stable isotopic analyses: Geological Society of America, Abstracts with Programs, v. 45, no. 7, p. 136.
- Dvoretzky, R., Franseen, E. K., and Goldstein, R. H., 2013, Static reservoir-analog modeling of focused-flow and dispersed-flow resedimented deepwater carbonate deposits: Fourth Annual Deepwater Reservoirs Geosciences Technology Workshop, Jan. 15–16, 2013, Houston, Texas.
- Händel, H., Liu, G., Dietrich, P., Liedl, R., and Butler, J. J. Jr., 2013, Numerical investigation of shallow aquifer recharge using small-diameter, low-cost wells and infiltration basins: Abstract 9197 presented at 2013 Ground Water Summit, National Ground Water Association, San Antonio, Texas, May 2013.
- Händel, H., Liu, G., Dietrich, P., Liedl, R., Fank, J., and Butler, J. J. Jr., 2013, Numerical comparison of artificial recharge by small-diameter wells to common systems, Abstract H11F-1214: American Geophysical Union fall meeting, San Francisco, California, December 2013.
- Harlow, R. H., González, L. A., Ludvigson, G. A., and Petronis, M., 2013, Employment of non-traditional techniques to improve stratigraphic correlation in the Ogallala Formation and their applications for future groundwater management: Official Program, Midcontinent Section Meeting, American Association of Petroleum Geologists, October 12–15, Wichita, Kansas, p. 40.
- Harlow, R. H., Ludvigson, G. A., Smith, J. J., Doveton, J. H., and Murphy, L. R., 2013, Evolution of the Neogene High Plains succession depositional history through paleoclimatic and vertical sequence analysis: southwestern Kansas: Program & Abstracts for the 2013 Meeting of the Society for Cenozoic Research (TER-QUA), Lawrence, Kansas, p. 12.
- Harlow, R. H., Ludvigson, G. A., Smith, J. J., Doveton, J. H., Petronis, M., and Gonzalez, L. A., 2013, Employment of non-traditional techniques to improve stratigraphic correlation of the High Plains Succession and their applications for future groundwater management: 10th Annual Capitol Graduate Research Summit, Topeka, Kansas.
- Hasiotis, S. T., Halfen, A. F., Counts, J. W., Kraus, M. J., Smith, J. J., and Hembree, D. I., 2013, Bioturbation is the major process in the evolution of soils and landscapes—Evidence from modern and deep time: Geological Society of America, Abstracts with Programs, v. 45, no. 7, p. 633.
- Hasiotis, S. T., Halfen, A. F., Counts, J. W., Wasserman, H., Platt, B. F., Hembree, D. I., Jones, M. F., Hirmas, D. R., and Smith, J. J., 2013, Exploring old and new frontiers in continental ichnology—Evaluating its place in ichnology and its role in geology: Geological Society of America, Abstracts with Programs, v. 45, no. 7, p. 898.
- Joeckel, R. M., Ludvigson, G. A., Kirkland, J. I., and Suarez, C. A., 2013, Alluvial architecture, paleosols, vertic features, and preliminary chemostratigraphy of the Yellow Cat Member (Lower Cretaceous) of the Cedar Mountain Formation in Grand County, Utah, USA: Geological Society of America, Abstracts with Programs, v. 45, no. 7, p. 133.

- Katz, B. S., Stotler, R. L., Hirmas, D. R., Whittemore, D. O., Butler, J. J., Smith, J. J., and Ludvigson, G. A., 2013, Implications of  $\delta^{18}\text{O}$  and  $\delta^2\text{H}$  stable isotopes for recharge to the High Plains Aquifer, northwestern Kansas: Geological Society of America, Abstracts with Programs, v. 45, no.7, p. 350.
- Layzell, A. L., and Mandel, R. D., 2013. An assessment of the lithostratigraphy and erodibility of Holocene alluvial fills (Deforest Formation) in northeastern Kansas, USA: Geological Society of America, Abstracts with Programs, Vol. 45, No. 7, p. 120
- Li, Z., Goldstein, R. H., and Franseen, E. K., 2013, Meteoric calcite cementation: Diagenetic response to relative sea-level fall and effect on porosity and permeability, Upper Miocene, Southeast Spain: AAPG Annual Meeting, Pittsburg, Pennsylvania, May 2013.
- Long, M. M., Whittemore, D. O., and Stotler, R. L., 2013, Characterizing surface and groundwater interactions of different subsurface geologic environments using geochemical and isotopic analyses in Kansas: Geological Society of America Abstracts with Programs, v. 45, no. 7, p 350.
- Ludvigson, G. A., González, L. A., Fowle, D. A., Roberts, J. A., Driese, S. G., and Suarez, M., 2013, Recent progress on the pedogenic paleoclimate siderite proxy: Geological Society of America, Abstracts with Programs, v. 45, no.7, p. 736.
- Ludvigson, G. A., González, L. A., Suarez, C., Fiorillo, A. R., McCarthy, P., and Flaig, P., 2013, Exploring the role of the hydrologic cycle in Arctic Amplification during the greenhouse worlds of the Cretaceous and Paleogene: Geological Society of America, Abstracts with Programs, v. 45, no.7, p. 897.
- Ludvigson, G. A., Smith, J. J., Harlow, R. H., Doveton, J. A., Mandel, R. D., González, L. A., Zeigler, K., Petronis, M., Möller, A., Feldman, J., Stotler, R., and Rittenour, T. M., 2013, A scientific drilling program in the Cenozoic strata of the high plains in western Kansas, Program & Abstracts for the 2013 Meeting of the Society for Cenozoic Research (TER-QUA), Lawrence, Kansas, p. 16.
- Ortega-Ariza, D., and Franseen, E. K., 2013, Evaluating Controls on Miocene Carbonate-Dominated Sequences in Puerto Rico and the Dominican Republic: GSA Southeastern Section—62nd Annual Meeting (20–21 March 2013).
- Platt, B. F., Smith, J. J., and Ludvigson, G. A., 2013, Ichnological and stratigraphic investigations of the Neogene Ogallala Formation of western Kansas: Traces, tiering, and timing: Program & Abstracts for the 2013 Meeting of the Society for Cenozoic Research (TER-QUA), Lawrence, Kansas, p. 22.
- Richey, J. D., Upchurch, G. R., Joeckel, R., Smith, J. J., Ludvigson, G. A., and Lomax, B. H., 2013, Atmospheric carbon dioxide and its relation to carbon cycle perturbations during Ocean Anoxic Event 1d: A high resolution record from dispersed plant cuticle: Geological Society of America, Abstracts with Programs, v. 45, no. 7, p. 333.
- Richey, J. D., Upchurch, G. R., Joeckel, R., Smith, J. J., Ludvigson, G. A., and Lomax, B. H., 2013, Atmospheric carbon dioxide and its relation to carbon cycle perturbations during Ocean Anoxic Event 1d: A high resolution record from dispersed plant cuticle: American Geophysical Union Fall Meeting, San Francisco, California; PP33B-1923.
- Smith, J. J., Ludvigson, G. A., Harlow, R. H., Doveton, J. H., Zeigler, K. E., Petronis, M., Möller, A., Feldman, J., Stotler, R. L., and Rittenour, T., 2013, Paleogene strata of the High Plains in western Kansas? Preliminary radiometric dates from volcanogenic zircons in mature paleosols: Geological Society of America, Abstracts with Programs, v. 45, no.7, p. 478.
- Smith, J. J., Platt, B. F., Thomasson, J. R., Ludvigson, G. A., Packauskas, R., Flores, T., Leiker, J., Walters, G., and Barrick, R., 2013, Ant nest trace fossils of the Neogene Ogallala Formation and preliminary analysis of aluminum casts of modern western harvester ant nests from Hays, Kansas: Program & Abstracts for the 2013 Meeting of the Society for Cenozoic Research (TER-QUA), Lawrence, Kansas, p. 25–26
- Solis, J. A., Rajaram, H., Whittemore, D. O., Butler, Jr. J. J., Eichinger, W. E., and Reboulet, E. C., 2013, Comparison of riparian evapotranspiration estimated using Raman LIDAR and water balance based estimates from a soil moisture sensor network: Abstract H13J-1503, American Geophysical Union Meeting, San Francisco, California.
- Stolz, D., Mouton, K., Goldstein, R. H., Franseen, E., and Doveton, J., 2013, Sediment gravity flow deposits in the Avalon Shale Play of the Delaware Basin, West Texas and Southeast New Mexico: AAPG Annual Meeting, Pittsburg, Pennsylvania, May 2013.
- Stotler, R. L., Butler, J. J., Whittemore, D. O., Reboulet, E. C., Katz, B. S., Hirmas, D. R., Smith, J. J., and Ludvigson, G. A., 2013, Monitoring, groundwater age, and assessing water availability: Lessons from the High Plains Aquifer, Kansas, USA: submitted for Groundwater and Global Palaeoclimate Signals, ICSU-INQUA-IGCP-GRAPHIC Worskhop, Bobole, Mozambique, October 14–19, 2013.



- Suchy, D. R., Stewart, D. L., and Adkins-Heljeson, D., 2013, Kansas Geological Survey water well, water level, and water usage information on the Internet (abst.): Governor's Conference on the Future of Water in Kansas, Manhattan, Kansas.
- Trevino, S. F., Zeigler, K. E., Petronis, M., Smith, J. J., Ludvigson, G. A., and Doveton, J. H., 2013, New magnetic polarity data from the High Plains–Ogallala drilling project core HP1A: A preliminary magnetostratigraphy from the Eocene-Oligocene White River Group, southwestern Kansas: Geological Society of America, Abstracts with Programs, v. 45, no. 7, p. 135.
- Whittemore, D. O., and Butler, J. J. Jr., 2013, Drought impacts on Kansas groundwater levels: Program with Abstracts, 58<sup>th</sup> Annual Midwest Ground Water Conference, Bismarck, North Dakota.
- Whittemore, D. O., Butler, J. J. Jr., and Wilson, B. B., 2013, A new approach for assessing the impact of climatic and pumping stresses on the High Plains aquifer in Kansas: Governor's Conference on Future of Water in Kansas, Topeka, Kansas.
- Whittemore, D. O., Butler, J. J. Jr., and Wilson, B. B., 2013, Prediction of water-level changes in the High Plains aquifer in Kansas from climatic indices: Geological Society of America Abstracts with Programs, v. 45, no. 7, p. 490.
- Whittemore, D. O., and Kettle, W. D., 2013, Ecohydrology and climate change at Kansas natural areas and research stations: Transactions of the Kansas Academy Science, v. 116, no. 1/2, <http://www.bioone.org/doi/full/10.1660/062.116.0114>.

## **Presentations**

- Brookfield, A. E., 2013, Integrated hydrologic models: Building new tools for water management, University of Nebraska-Lincoln Spring 2013 Water Seminar Series, January 16.
- Butler, J. J. Jr., Presentation on the High Plains aquifer as part of “Beyond the Long Hot Summer: The Future of Water in Kansas” symposium, Lawrence, March 1, 2013.
- Butler, J. J. Jr., Presentation on the Index Well Program to the Ogallala Aquifer Advisory Committee, Scott City, April 8, 2013.
- Butler, J. J. Jr., Presentation on the Index Well Program at the Kansas Water Office, April 25, 2013.
- Butler, J. J. Jr., Presentation on the Haskell Index Well to the Ogallala Aquifer Advisory Committee, Dodge City, Nov. 5, 2013.
- Butler, J. J., Jr., Bohling, G. C., Reboulet, E. C., and Olson, J., 2013, Signal not noise: Getting more from water-level responses to barometric-pressure fluctuations: 2013 Ground Water Summit, National Ground Water Association, San Antonio, Texas, May 2013.
- Butler, J. J., Jr., Liu, G., Knobbe, S., Reboulet, E., and Dietrich, P., 2013, Subsurface characterization: Some recent developments and future prospects: International Association of Hydrological Sciences, 2013 Joint Assembly, Gothenburg, Sweden, July 2013.
- Butler, J. J., Jr., Whittemore, D. O., and Wilson, B. B., 2013, A simple first-order approach for assessing aquifer response to anthropogenic and climatic stresses: New insights into the future of the High Plains aquifer in Kansas, American Geophysical Union fall meeting, San Francisco, California, December 2013.
- Dunham, J., 2013, Surficial geology of Hodgeman County, Kansas: Map Gallery (poster) presentation, ESRI International User Conference, San Diego, California, July 8, 2013.
- Dunham, J., 2013, Using ArcScan in geologic mapping to convert hand-drawn geologic contacts: Map Gallery (poster) presentation, ESRI International User Conference, San Diego, California, July 8, 2013.
- Dunham, J., 2013, Scanning and digital cleanup of out-of-print maps: Digital Mapping Techniques (DMT) AASG-USGS Annual Workshop, Colorado School of Mines, Golden, Colorado, June 3, 2013.
- Dunham, J. W., Koop, A. N., and Johnson, W. C., 2013, Applying ArcScan in geologic mapping to convert hand-drawn geologic contacts: poster presented by W. C. Johnson, Geological Society of America 2013 Annual Meeting, Denver, Colorado, October 28, 2013.
- Franseen, E. K., 2013, Invited speaker, University of Nebraska-Lincoln, Mylan T. Stout Lecture Series Seminar: A new concept in sequence stratigraphy: Build-and-fill sequences in carbonate-dominated systems, April 2013.
- Franseen, E. K., 2013, Invited luncheon speaker, Build-and-fill sequences in carbonate-dominated systems: A developing concept for sequence-stratigraphy, GCAGS-GCSSEPM Annual Meeting, New Orleans, Louisiana, Oct. 6–8, 2013.
- Franseen, E. K., 2013, Invited presentation—Unconventional reservoirs: Mississippian Lime Play, Kansas; Avalon Shale, Texas & New Mexico; Miocene Chalks, SE Spain: Chevron Energy Technology Center, Houston, Texas, March 2013.

- Franseen, E. K., 2013, Invited Presentation—Controls on Mississippian (Osagean) inner ramp heterozoan carbonate & biosiliceous deposits in a midcontinent setting: Repsol Oil Company, Madrid, Spain, November 2013.
- Franseen, E. K., 2013, Session chair—Interplay of evaporites and carbonates including microbialites: 2013 AAPG Annual Convention, Pittsburg, Pennsylvania, May 19–22.
- Franseen, E. K., 2013, Session chair—Modern carbonates: 2013 AAPG Annual Convention, Pittsburg, Pennsylvania, May 19–22.
- Franseen, E. K., 2013, Session chair—Carbonates and evaporites I & II: 2013 AAPG Annual Convention, Pittsburg, Pennsylvania, May 19–22.
- Franseen, E. K., 2013, Co-instructor for Total Oil Company geologists to Miocene-Pliocene carbonate complexes, SE Spain, November 27–29, 2013.
- Franseen, E. K., 2013, Co-instructor for AAPG Education Program: Controls on porosity types and distribution in carbonate reservoirs: Almeria, Spain, June 2–7, 2013.
- Händel, H., Liu, G., Dietrich, P., Liedl, R., and Butler, J. J. Jr., 2013, Numerical investigation of shallow aquifer recharge using small-diameter, low-cost wells and infiltration basins: 2013 Ground Water Summit, National Ground Water Association, San Antonio, Texas, May 2013.
- Ludvigson, G. A., 2013, Preliminary findings from the HP1A core at the Haskell County Index Well Site, southwest Kansas: Kansas Geological Survey, Lawrence, Kansas, June 18, 2013.
- Ludvigson, G. A., What's up with the pedogenic siderite paleoclimate proxy?: Validation by modern process studies and new applications to the Cretaceous Arctic: Department of Geoscience, University of Iowa, Iowa City, Iowa, April 12, 2013.
- Miller, R. D., 2013, ICEG, Al Ain, UAE, Keynote Address, November.
- Miller, R. D., Luczaj, J., and Evans, T. J., 2013, Delineating shallow basement faults on high-resolution seismic reflection data plagued with extreme static in NE Wisconsin, USA [Exp. Abs.]: Annual Meeting of the Society of Exploration Geophysicists, Houston, Texas, September 22–27.
- Miller, R. D., 2013, SEG Near Surface Asia Pacific Conference, Near Surface Honorary Lecture, Near-surface seismic: More than a problem of scale, Keynote Address, Beijing, China, July 2013.
- Miller, R. D., 2013, ASCE, Geotechnical Conference, Overland Park, Kansas, April 2013.
- Miller, R. D., 2013, SEG 2012 Near Surface Honorary Lecturer, Near-surface seismic: More than a problem of scale (26 lectures total):  
 —Tulsa Geophysical Society, Tulsa, Oklahoma, April 11, 2013.  
 —Near Surface Asia Pacific Conference, Beijing, China, July 2013  
 —Qatar Geoscience Society, Doha, Qatar, November 28, 2013.  
 —Oman Geophysics Society, Muscat, Oman, December 2, 2013.
- Sawin, R. S., 2013, Benefits and uses of geologic maps: Joseph A. Holmes Safety Association, September 18, 2013, Lawrence, Kansas.
- Smith, J. J., and Duarte, A., 2013, Update: Sediment mapping within the McPherson Channel, with Adrienne Duarte. Kansas Geological Survey Advisory Committee meeting, November 15, 2013.
- Stewart, D., 2013, The Data Resources Library at the Kansas Geological Survey—Records processing and presentation on the web: Energy Library Conference, Oklahoma City, Oklahoma, October 24, 2013.
- Suchy, D. R., Stewart, D. L., Adkins-Heljeson, D., 2013, Kansas Geological Survey water well, water level, and water usage information on the Internet (poster): Governor's Conference on the Future of Water in Kansas, Manhattan, Kansas, October 24–25, 2013.
- Whittemore, D. O., and Butler, J. J. Jr., 2013, Drought impacts on Kansas groundwater levels: 58<sup>th</sup> Annual Midwest Ground Water Conference, Bismarck, North Dakota.
- Whittemore, D. O., Butler, J. J. Jr., and Wilson, B. B., 2013, Prediction of water-level changes in the High Plains aquifer in Kansas from climatic indices: Geological Society of America, Denver, Colorado, October 2013.
- Whittemore, D. O., Butler, J. J. Jr., and Wilson, B. B., 2013, A new approach for assessing the impact of climatic and pumping stresses on the High Plains aquifer in Kansas: Governor's Conference on Future of Water in Kansas, Topeka, Kansas.
- Whittemore, D. O., and Kettle, W. D., 2013, Ecohydrology and climate change at Kansas natural areas and research stations: Kansas Academy of Science.

## **Grant Awards**

National Geological and Geophysical Data Preservation Program Grant to Data Resources Library and Wichita Well Sample Library, Kansas Geological Survey; administered through U. S. Geological Survey, 2013-2014, \$46,350.

National Geological and Geophysical Data Preservation Program Grant to Data Resources Library, Kansas Geological Survey; administered through U. S. Geological Survey, 2012-2013, \$23,000.

U.S. Geological Survey, Geophysical methods development for subsurface characterization for various near-surface settings (Task 2–Data acquisition and technique enhancement), 2013, \$483,908. (PI: Miller)

MWH Americas Inc., Santa Susana Field Laboratory pilot seismic study, 2013, \$273,372. (Co-PI: Miller)

XRI Geophysics LLC, Advancing full wavefield seismic imaging and detection technologies, 2013, \$521,471. (PI: Miller)

## **Awards**

Franseen, E. K.—2014 E.F. Schramm Lecturer, University of Nebraska-Lincoln.

Franseen, E. K.—SEPM 2013–2014 President of SEPM, the International Society for Sedimentary Geology.

Ludvigson, G. A.—Elected Sedimentology Councilor, SEPM; The Society for Sedimentary Geology, 2013–2014.

Ludvigson, G. A.—Sedimentary Geology Division, Joint Technical Program Committee, Geological Society of America, 2013–2014.

Miller, R. D.—Appointed, 1st Vice President, SEG Board, November 2012–2013.

Miller, R. D.—USP Service Award, SEG 2012.

Miller, R. D.—Merriam Research Award, KGS, 2013.

## **Internal Service**

Franseen, E. K.—Member, KGS Stratigraphic Nomenclature Committee.

Franseen, E. K.—Member, search committee for Budget Director.

Franseen, E. K.—Member, Editorial Board for Current Research on Kansas Geology Bulletin.

Ludvigson, G. A.—Member, KGS Stratigraphic Nomenclature Committee.

Ludvigson, G. A.—STATEMAP Program Coordinator for the KGS.

Ludvigson, G. A.—Member, search committee for Field Research Assistant Driller.

Miller, R. D.—KGS Current Research Bulletin Advisory Board, 1992–present.

Miller, R. D.—KGS Borehole Standards, Remediation, and Reclamation Committee, Chair, 1990–present.

Miller, R. D.—KGS Emergency Preparedness Committee, 1987–present.

Sawin, R. S.—Chair, KGS Stratigraphic Nomenclature Committee.

Smith, J. J.—Member, search committee for Postdoctoral Research Assistant.

## **External Service**

Butler, J. J., Jr.—President-Elect (July 2011–July 2013), President (July 2013–present), International Commission on Ground Water, International Association of Hydrological Sciences.

Butler, J. J., Jr.—Elected Member, Board of Directors, Scientists and Engineers Division, National Ground Water Association (2010–2013).

Butler, J. J., Jr.—Appointed Member, Chair (2012–13), Awards Committee, Scientists and Engineers Division, National Ground Water Association.

Butler, J. J., Jr.—Appointed Member, Kansas Water Resources Institute Administrative Council

Butler, J. J., Jr.—Associate Editor—Ground Water

Butler, J. J., Jr.—National Science Foundation—Hydrologic Sciences Proposal Panelist November 2013)

Butler, J. J., Jr.—Promotion and Tenure Evaluator, Department of Geosciences, Colorado State University (2013).

Butler, J. J., Jr.—Member, Erin Haacker Ph.D. committee, Department of Geological Sciences, Michigan State University (2013–present).

Butler, J. J., Jr.—Member, Brooks Bailey M.S. committee, Department of Geology, University of Kansas (2013–present).

Butler, J. J., Jr.—Meeting or Special Session Convener:

- Characterizing Water Quantity and Water Quality: New Approaches and Future Directions, International Association of Hydrological Sciences, 2013 Joint Assembly, Gothenburg, Sweden, July 2013.
- Eliminating or Exploiting Environmental Fluctuations to Improve Hydraulic Characterization, National Ground Water Association, Ground Water Summit, San Antonio, Texas, May 2013.

Butler, J. J., Jr.—Member, Organizing Committee, NovCare 2013 (Novel Methods for Subsurface Characterization and Monitoring: From Theory to Practice), May 2013, Leipzig, Germany.

Butler, J. J., Jr.—Associate, Center for East Asian Studies, University of Kansas.

Butler, J. J., Jr.—Core Faculty Member, Center for Global and International Studies, University of Kansas.

Butler, J. J., Jr.—Courtesy Full Professor, Department of Geology, University of Kansas.

Butler, J. J., Jr.—Worked with NBC Learn and Michigan State University to develop educational video on the High Plains aquifer, April 2013 (<http://archives.nbclearn.com/portal/site/k-12/flatview?cuecard=65288>).

Butler, J. J., Jr.—Session Moderator:

- 2013 NGWA Ground Water Summit, San Antonio, Texas, May 2013.
- International Association of Hydrological Sciences, 2013 Joint Assembly, Gothenburg, Sweden, July 2013.
- 2013 Governor's Conference on Future of Water in Kansas, October 2013.
- 22<sup>nd</sup> Annual Kansas Hydrology Seminar, Topeka, Kansas, November 2013.
- 2013 Ground Water Expo, National Ground Water Assoc., Nashville, Tennessee, December 2013.

Butler, J. J., Jr.—Visiting Researcher, Hydrogeology Group, Universitat Politècnica de València, September 2012–January 2013, Valencia, Spain (KU sabbatical leave).

Dunham, J.—Represented KGS at the annual USGS-AASG Digital Mapping Techniques (DMT) conference, Champaign, IL, Illinois State Geological Survey, University of Illinois, May 20–23, 2012.

Dunham, J.—Represented KGS at the annual USGS-AASG Digital Mapping Techniques (DMT) conference, Golden, Colorado, Colorado Geological Survey, Colorado School of Mines, June 2–5, 2013.

Franseen, E. K.—Member, Promotion and Tenure Committee, Department of Geology, University of Kansas

Franseen, E. K.—Member, Graduate Students Admissions Committee, Department of Geology, University of Kansas

Franseen, E. K.—Member, Search Committee for Petroleum Engineer, Chemical and Petroleum Engineering Department, University of Kansas

Franseen, E. K.—Member, Search Committee for Geophysicist, Department of Geology, University of Kansas

Franseen, E. K.—Evaluator, Faculty Teaching, Department of Geology, University of Kansas

Franseen, E. K.—Advising, Undergraduates (sophomores), Department of Geology, University of Kansas

Franseen, E. K.—President, SEPM (Society of Sedimentary Research).

Franseen, E. K.—Member, Board of Visitors (Alumni Board), Department of Geology, University of Wisconsin-Madison.

Franseen, E. K.—Chair, SEPM Strategic Plan Committee

Franseen, E. K.—President-Elect, SEPM (Society of Sedimentary Research).

Franseen, E. K.—Chair, SEPM Shepard Medal Award Committee

Franseen, E. K.—Chair, SEPM Ethics Violations Committee

Franseen, E. K.—Chair, SEPM Sedimentary Record Editor Search Committee

Franseen, E. K.—Member, SEPM Student Research Grant Evaluation Committee

Franseen, E. K.—Chair, Ph.D. committee for Diana Ortega-Ariza.

Franseen, E. K.—Co-chair, Ph.D. committee for Zhaoqi Li.

Franseen, E. K.—Co-chair, MS committees for Dustin Stolz, Rafferty Sweeney, Karen Ohmes-Lechtenburg, Justin Fairchild, and Tony Pugliano.

Franseen, E. K.—Member, Ph.D. committee for Jason Rush.

Franseen, E. K.—Member, MS committees for Brad King, Jennifer Lowry, Thomas Neal, Maritha Huber, and Sean Fischer.

Franseen, E. K.—Instructor for Geology 532—Stratigraphy, Fall Semester, 2013, Geology Department, University of Kansas.

Franseen, E. K.—Co-Instructor for Geology 761—Regional Field Geology, Spring Semester, 2013, Geology Department, University of Kansas.

Ludvigson, G. A.—Member, search committee for the KU Geology Department Ritchie Distinguished Professorship in Sedimentary Geology.

Ludvigson, G. A.—Member, search committee for a new geochronologist for the KU Department of Geology.

Ludvigson, G. A.—Elected 2013-2014 Councilor for Sedimentology for SEPM, The Society for Sedimentary Geology.

Ludvigson, G. A.—Member, ad-hoc SEPM Council committee in fall 2013 to select the incoming co-editor for JSR.

Ludvigson, G. A.—2013-2014 GSA Sedimentary Geology Division Representative, GSA Joint Technical Program Committee (JTPC).

Ludvigson, G. A.—Associate Editor, Journal of Sedimentary Research.

Ludvigson, G. A.—Participating faculty member in GEOL 791-020 seminar course Current Research in Sedimentary Geology, Department of Geology, University of Kansas; August–December 2013.

Ludvigson, G. A.—Research hours faculty supervisor for KU graduate students Hunter Harlow and Jeff Ross; spring and summer semesters 2013.

Ludvigson, G. A.—Mentored KGS postdoctoral researcher Dr. Brian Platt, spring and summer semesters 2013.

Ludvigson, G. A.—Co-chair, M.S. thesis committee for KU student Hunter Harlow.

Ludvigson, G. A.—Co-chair, M.S. thesis committee for KU graduate student Jeff Ross.

Ludvigson, G. A.—Chair, M.S. thesis committee for KU graduate student Holly Field.

Ludvigson, G. A.—Member, Ph.D. committee of KU graduate student Tony Layzell.

Ludvigson, G. A.—Member, graduate committees of KU graduate students Julianne Emry (Ph.D), Matthew Meyers (M.S.), and Michael Waynick (M.S.).

Miller, R. D.—Chair, master's thesis committees, for Amanda Livers (University of Kansas), Jordan Nolan (University of Kansas), Yao Wang (University of Kansas), and Tyler Schwenk (University of Kansas).

Miller, R. D.—Co-chair, master's thesis committee, for Bevin Bailey (University of Kansas)

Miller, R. D.—Session Co-chair, Shallow Seismology, Near Surface Asia Pacific Conference, Beijing, China, July 18, 2013.

Miller, R. D.—AGU, Session Co-convenor, “Developments and practical applications of the multichannel seismic-data surface-wave analysis method,” AGU Fall Meeting, San Francisco, December 9–13, 2013.

Miller, R. D.—SEG Board, November 2012–2013. SEG-EEGS Merger Task Force, Continuing Education Committee, and Inter-Society Relations Committee.

Miller, R. D.—KU Faculty Senate Research Committee, 2011–2013.

Miller, R. D.—DOE-EM30 Scientific Opportunities for Monitoring of Environmental Remediation Sites (SOMERS) Task Force, 2010–present.

Miller, R. D.—SEG Near Surface Task Force, 2010–present.

Miller, R. D.—SEG, Intersociety Task Force, 2010–present.

Miller, R. D.—SEG/NSG EEGS Collaboration Committee, Chair, 2010–present.

Miller, R. D.—SEG, Special Issue Editor, *The Leading Edge*: July 2013 (v. 32, n. 7), hydrogeophysics; June 2013 (v. 32, n. 6), nonreflection seismic and inversion of surface and guided waves; March 2013 (v. 32, n. 3), urban geophysics.

Miller, R. D.—KU RGS Research Achievement Award Selection Committee, 2008–2013.

Miller, R. D.—SEG Near-Surface Geophysics Section Publications Committee, Chairman, 2008–present.

Miller, R. D.—National Advisory Team for Geophysics in Hydrology, organized by the Consortium of Universities for the Advancement of Hydrologic Sciences Inc., 2006–present.

Miller, R. D.—ASTM Geophysics Subcommittee on Seismic Standards, 2006–present.

Miller, R. D.—Geophysical Society of Kansas, Editor, 2005–present.

Miller, R. D.—SEG Technical Session Chair, 2012, 2013.

Miller, R. D.—SAGEEP EEGS Technical Session Chair, 2013.

Miller, R. D.—Consultant, APACHE CORP, 2013, High Resolution Seismic Imaging Geohazard.

Sawin, R. S.—Member, Kansas State University Geology Advisory Council (1995–present).

Sawin, R. S.—Member, Reservoir Siting Technical Advisory Committee, Kansas Water Office.

Smith, J. J.—Co-Chair, 2013 Annual Meeting of the Society for Cenozoic Research (TerQua), Lawrence, Kansas.

Smith, J. J.—Co-Chair, Recent Advances in Stratigraphic Research, Annual Meeting of the Geological Society of America.

Suchy, D. R.—Research Senator, Unclassified Professional Staff Senate, University of Kansas (2012–Present).

Suchy, D. R.—Member and Vice-Chairman, Board of Directors, Rural Water District #5, Douglas County, Kansas (2007–Present).

Suchy, D. R.—Board Member and Treasurer, Public Wholesale Water Supply District #25, Douglas and Osage Counties, Kansas (2007–Present).

Whittemore, D. O.—Geochemical identification of saltwater sources for Kansas Corporation Commission

Whittemore, D. O.—Council member of Kansas Academy of Science.

Whittemore, D. O.—State Steering Committee of Conservation Reserve Enhancement Program.  
Whittemore, D. O.—Reviewer for following journals: *Journal of Contaminant Hydrology, Water Quality Exposure and Health, Environmental Science & Technology, Environmental Earth Sciences*  
Whittemore, D. O.—PhD committee, student at University of Colorado  
Whittemore, D. O.—M.S. committee, student in Department of Geology, University of Kansas

### **KGS Website Additions**

- Placed online:
  - 8 bulletins and 15 books from other series (most from the Irrigation series)
  - Three Public Information Circulars
  - 21 open-file reports, including all 2013 open-file reports that were suitable for the web and several from earlier years (mostly from the 1990s)
  - 41,500 wireline logs since mid-2012
  - 16,600 other oil and gas documents
- Scanned 21,000 water well records since mid-2012

# 2012

## Refereed Publications

- Bailey, B. L., Steeples, D. W., Miller, R. D., Peterie, S. L., Ivanov, J., and Markiewicz, R. D., 2012, Evaluation of extended correlation on shallow Vibroseis data [Exp. Abs.]: Annual Meeting of the Soc. of Expl. Geophys., Las Vegas, Nevada, November 4-9, 3 p. (e-Poster.)
- Bohling, G. C., Liu, G., Knobbe, S. J., Reboulet, E. C., Hyndman, D. W., Dietrich, P., and Butler, J. J., Jr., 2012, Geostatistical analysis of centimeter-scale hydraulic conductivity variations at the MADE site: *Water Resources Research*, v. 48, W02525, doi:10.1029/2011WR010791.
- Bunn, A. L., Wellman, D. M., Deeb, R. A., Hawley, E. L., Truex, M. J., Peterson, M. J., Freshley, M. D., Pierce, E. M., McCord, J., Young, M. H., Gilmore, T. J., Miller, R. D., Miracle, A. L., Kaback, D., Eddy-Dilek, C., Rossabi, J., Lee, M. H., Bush, R., Beam, P., Chamberlain, G. M., Marble, J., Whitehurst, L., Gerdes, K., and Collazo, Y. T., 2012, Scientific Opportunities for Monitoring at Environmental Remediation Sites (SOMERS): Integrated systems-based approaches to monitoring. DOE/PNNL-21379. Prepared for Office of Soil and Groundwater Remediation, Office of Environmental Management, U.S. Department of Energy, Washington, DC, by Pacific Northwest National Laboratory, Richland, WA.
- Bunn, A., Wellman, D., Freshley, M., Gilmore, T., Miracle, A., Truex, M., Deeb, R., Hawley, E., Eddy-Dilek, C., Kabak, D., McCord, J., Miller, R. D., Peterson, M., Pierce, E., Rossabi, J., Young, M., Bush, R., Beam, P., Chamberlain, S., Gerdes, K., and Collazo, Y., 2012, Scientific opportunities for monitoring of environmental remediation sites: Proceedings of the Waste Management Symposia—WM2012: Improving the Future in Waste Management, Phoenix, Arizona, February 26-March 1.
- Butler, J. J., Jr., in press, Slug tests in wells screened across the water table: Some additional considerations: *Ground Water*.
- Butler, J. J., Jr., Stotler, R. L., Whittemore, D. O., and Reboulet, E. C., in press, Interpretation of water-level changes in the High Plains aquifer in western Kansas: *Ground Water*.
- Devlin, J. F., Brookfield, A. E., Huang, B., and Schillig, P. C., 2012, Using the Domenico solution to teach contaminant transport modeling: *Journal of Geoscience Education*, v. 60, no. 2, p. 123–132.
- Doll, W. E., Miller, R. D., and Bradford, J., 2012, The emergence and future of near-surface geophysics: *Leading Edge*, v. 31, n. 6, p. 684–689.
- Emry, J. R., Goldstein, R. H., and Franseen, E. K., 2012, A first-cut field method to evaluate limestone aggregate durability: *ACI Materials Journal*, v. 109, p. 557–564.
- Franseen, E. K., and Byrnes, A. P., 2012, Arbuckle Group platform strata in Kansas—A Synthesis; *in*, The Great American Carbonate Bank: The Geology and Economic Resources of the Cambrian–Ordovician Sauk Megasequence of Laurentia: AAPG Memoir 98, J. R. Derby, R. D. Fritz, S. Longacre, W. A. Morgan, and C. A. Sternbach, eds., p. 1,031–1,047.
- Franseen, E. K., and Byrnes, A. P., 2012, Extended abstract—Arbuckle Group platform strata in Kansas—A Synthesis, *in*, The Great American Carbonate Bank: The Geology and Economic Resources of the Cambrian–Ordovician Sauk Megasequence of Laurentia: AAPG Memoir 98, J. R. Derby, R. D. Fritz, S. Longacre, W. A. Morgan, and C. A. Sternbach, eds., p. 445a–452a.
- Gleeson, T., Alley, W. M., Allen, D. M., Sophocleous, M. A., Zhou, Y., Taniguchi, M., and VanderSteen, J., 2012, Towards sustainable groundwater use: Setting long-term goals, backcasting and managing adaptively: *Ground Water*, v. 50, no. 1, p. 19–26.
- Goldstein, R. H., Franseen, E. K., Dvoretzky, R., and Sweeny, R., 2012, Controls on focused-flow and dispersed-flow deepwater carbonates: Miocene Agua Amarga Basin, Spain: *Journal of Sedimentary Research*, v. 82, p. 499–520.
- Halfen, A. F., Johnson, W. C., Hanson, P. R., Woodburn, T. L., Young, A. R., and Ludvigson, G. A., 2012, Activation history of the Hutchinson Dunes in east-central Kansas, USA, during the past 2200 years: *Aeolian Research*, v. 5, p. 9–20. <http://dx.doi.org/10.1016/j.aeolia.2012.02.001>.
- Hasiotis, S. T., and Platt, B. F., 2012, Exploring the sedimentary, pedogenic, and hydrologic factors that control the occurrence and role of bioturbation in soil formation and horizonation in continental deposits: An integrative approach: *The Sedimentary Record*, p. 4–9.
- Hasiotis, S. T., Platt, B. F., Reilly, M., Amos, K., Lang, S., Kennedy, D., Todd, J. A., and Michel, E., 2012, Actualistic studies of the spatial and temporal distributions of terrestrial and aquatic organism traces in



- continental environments to differentiate lacustrine from fluvial, eolian, and marine deposits in the geologic record, *in*, Lacustrine Sandstone Reservoirs and Hydrocarbon Systems: American Association of Petroleum Geologists Memoir 95, Baganz, O. W., Bartov, Y., Bohacs, K., and Nummendal, D., eds., p. 433–489.
- Hirmas, D. R., Platt, B. F., and Hasiotis, S. T., 2012, Determination of calcite and dolomite content in soils and paleosols by continuous coulometric titration: *Soil Science Society of America Journal*, v. 75, p. 1,100–1,106.
- Kenward, P., Goldstein, R. H., Brookfield, A. E., Gonzalez, L. A., and Roberts, J. A. (2012). Model for how archaeal methanogenesis can preserve early porosity in dolomite and limestone reservoirs: *AAPG Bulletin*, v. 96, p. 399–413.
- Li, Z., Goldstein, R. H., and Franseen, E. K., in press, Ascending freshwater-mesohaline mixing: A new scenario for dolomitization: *Journal of Sedimentary Research*.
- Liu, G., Butler, J. J., Jr., Reboulet, E.C., and Knobbe, S., 2012, Hydraulic conductivity profiling with direct-push methods: *Grundwasser*, v. 17, no. 1, p. 19–29, doi: 10.1007/s00767-011-0182-9.
- Liu, G., Knobbe, S., and Butler, J. J., Jr., in press, Resolving centimeter-scale flows in aquifers and their hydrostratigraphic controls, *Geophysical Research Letters*.
- Ludvigson, G. A., González, L. A., Fowle, D. A., Roberts, J. A., Driese, S. G., Villarreal, M. A., Smith, J. J., and Suarez, M. B., in press, Paleoclimatic applications and modern process studies of pedogenic siderite: Submitted for publication *in* *New Frontiers in Paleopedology and Terrestrial Paleoclimatology*, S. Driese, and L. Nordt, eds., SEPM Special Publication.
- Merriam, D. F., Brady, L. L., and Newell, K. D., 2012, Kansas energy resources, a geological review: *Natural Resources Research*, v. 21, no. 1, p. 163–175.
- Miller, R.D., 2012, Introduction to this special section—Archaeology: *Leading Edge*, v. 31, n. 8, p. 914–915.
- Miller R.D., 2012, President's Page: Advancing by division: *Leading Edge*, v. 31, n. 7, p. 748, 750.
- Miller R.D., 2012, President's Page: Surfacing our potential: *Leading Edge*, v. 31, n. 1, p. 8.
- Miller, R. D., Bailey, B. L., Peterie, S. L., Ivanov, J., and Markiewicz, R., 2012, Shallow P- and S-wave reflections to characterize the near-surface [Exp. Abs.]: Annual Meeting of the Soc. of Expl. Geophys., Las Vegas, NV, November 4–9, 4 p.
- Murphy, L. R., and Mandel, R. D., 2012, Geoarchaeology and paleoenvironmental context of the Burntwood Creek rockshelter, High Plains of northwestern Kansas, U.S.A.: *Geoarchaeology: An International Journal*, v. 27, p. 344–362.
- Philippine National Water Resources Board, Philippine Nuclear Research Institute, and International Atomic Energy Agency\_IAEA (Dunning, C. P., and Sophocleous, M. A.), 2012, Investment needs for resource assessment capability in the Philippines to improve the planning and management of water infrastructure. A report of the Philippine IWAVE Pilot Study, part of the IAEA Water Availability Enhancement Project, August 2012, 130 p. Available at [http://dl.dropbox.com/u/90583024/NWRB\\_book\\_FINAL.pdf](http://dl.dropbox.com/u/90583024/NWRB_book_FINAL.pdf).
- Platt, B. F., Hasiotis, S. T., and Hirmas, D. R., 2012, Empirical determination of physical controls on megafaunal footprint formation through neoichnological experiments with elephants: *PALAIOS*, v. 27, p. 725–737.
- Schwenk, J. T., Miller, R. D., Ivanov, J., Sloan, S. D., and McKenna, J. R., 2012, Dispersion interpretation from synthetic seismograms and multi-channel analysis of surface waves (MASW) [Exp. Abs.]: Annual Meeting of the Soc. of Expl. Geophys., Las Vegas, Nevada, November 4–9, 8 p.
- Sloan, S. D., Peterie, S. L., Miller, R. D., Ivanov, J., McKenna, J. R., Broadfoot, S. W., and Metheny, O. M., 2012, Tunnel detection using near-surface seismic methods [Exp. Abs.]: Annual Meeting of the Soc. of Expl. Geophys., Las Vegas, Nevada, November 4–9, 5 p.
- Sophocleous, M. A., 2012, Conserving and extending the useful life of the largest aquifer in North America: The future of the High Plains/Ogallala aquifer: *Ground Water*, v. 50 no. 6, p. 831–839.
- Sophocleous, M. A., 2012, The evolution of groundwater management paradigms in Kansas and possible new steps towards water sustainability: *Journal of Hydrology*, p. 414–415: 550–559.
- Sophocleous, M. A., 2012, On understanding and predicting groundwater response time: *Ground Water*, v. 50 no. 4, p. 528–540.
- Sophocleous, M. A., and Merriam, D. F., 2012, The Ogallala formation of the Great Plains in central U.S. and its containment of life-giving water: *Natural Resources Research*, v. 21, no. 4, p. 415–426.
- Suarez, C. A., González, L. A., Ludvigson, G. A., Cifelli, R. L., and Tremain, E., 2012, Water utilization of the Cretaceous Mussentuchit Member local vertebrate fauna, Cedar Mountain Formation, Utah, USA: Using oxygen isotopic composition of phosphate: *Palaeogeography, Palaeoclimatology, Palaeoecology*, v. 313, p. 78–92. doi:10.1016/j.palaeo.2011.10.011.

- Suarez, M. B., Ludvigson, G. A., González, L. A., Al-Suwaidi, A. H., and You, H., in press, Carbon isotope chemostratigraphy in lacustrine strata of the Xiagou Formation, Gansu Province, NW China: Geological Society London Special Publication Isotopic Studies in Cretaceous Research.
- Suarez, C. A., Ludvigson, G. A., González, L. A., Fiorillo, A. R., Flaig, P., and McCarthy P. J., in press, Use of multiple oxygen isotope proxies for elucidating Arctic Cretaceous paleohydrology: Geological Society London Special Publication Isotopic Studies in Cretaceous Research.
- Walsh, D., Turner, P., Grunewald, E., Zhang, H., Butler, J. J., Jr., Reboulet, E., Knobbe, S., Christy, T., Lane, J. W., Jr., Johnson, C. D., Munday, T., and Fitzpatrick, A., in press, A small-diameter NMR logging tool for groundwater investigations: Ground Water.
- Wang, X., Zheng, C., Liu, G., Li, W., Knobbe, S., Reboulet, E. C., and Butler, J. J., Jr., 2012, A review of recent developments in using direct-push technologies for rapid, high-resolution hydraulic conductivity measurements (in Chinese): *Hydrogeology and Engineering Geology*, v. 39, no. 1, p. 8–12.
- Whittemore, D. O., 2012, Potential impacts of stormwater runoff on water quality in urban sand pits and adjacent groundwater: *J. American Water Resources Association*, v. 48, no. 3, p. 584–602. DOI: 10.1111/j.1752-1688.2011.00637.x.
- Xia, J., Xu, Y., Luo, Y., Miller, R. D., Cakir, R., and Zeng, C., 2012, Advantages of using multichannel analysis of Love waves (MALW) to estimate near-surface shear-wave velocity: *Survey in Geophysics*, v. 33, p. 841–860.
- Xia, J., Xu, Y., Miller, R. D., and Ivanov, J., 2012, Estimation of near-surface quality factors by constrained inversion of Rayleigh-wave attenuation coefficients: *Journal of Applied Geophysics*, v. 82, p. 137–144.
- Zeng, C., Xia, J., Miller, R. D., and Tsoflis, G. P., 2012, An improved vacuum formulation for 2D finite-difference modeling of Rayleigh waves including surface topography and internal discontinuities: *Geophysics*, v. 77, p. T1–T9.
- Zeng, C., Xia, J., Miller, R. D., Tsoflis, G. P., and Wang, Z., 2012, Numerical investigation of MASW applications in presence of surface topography: *Journal of Applied Geophysics*, v. 84, p. 52–60.

### **Nonrefereed/Unpublished Papers**

- Butler, J. J., Jr., Stotler, R. L., Whittemore, D. O., Reboulet, E., Bohling, G. C., and Wilson, B. B., 2012, High Plains aquifer calibration monitoring well program: Fifth year progress report: Kansas Geological Survey Open-file Report 2012-2, 85 p.
- Dunham, J., 2012, Defining the Flint Hills (map). *Symphony in the Flint Hills—Field Journal 2012*, v. IV, p. 119. Strong City, Kansas: Symphony in the Flint Hills Press. 182 pp.
- Dunham, J. (compiler), 2012, Flint Hills Ecoregion (map): Kansas Geological Survey, Open-file Report 2012-6, scale 1:500,000.
- Dunham, J., 2012, Headwater streams in Lyon County (map): *Symphony in the Flint Hills—Field Journal 2012*, v. IV, p. 111. Strong City, Kansas: Symphony in the Flint Hills Press. 182 pp.
- Dunham, J., 2012, Streams and rivers in the Flint Hills (map): *Symphony in the Flint Hills—Field Journal 2012*, v. IV, p. 108. Strong City, Kansas: Symphony in the Flint Hills Press. 182 pp.
- Franseen, E. K., and Goldstein, R. H., 2012, Miocene-Pliocene carbonate complexes of SE Spain with emphasis on microbialite-oolite sequences of the terminal carbonate complex. 60 p.
- Fross, D., Sophocleous, M. A., Wilson, B., and Butler, J., 2012. Kansas High Plains Aquifer Atlas. Electronic atlas available at [http://www.kgs.ku.edu/HighPlains/HPA\\_Atlas/index.html](http://www.kgs.ku.edu/HighPlains/HPA_Atlas/index.html).
- Gagnon, G. F., 2012, LEOWEB Version 11.0 User Manual, Kansas Geological Survey, Open-file Report 2012-14, 34 p.; online: [http://www.kgs.ku.edu/Publications/OFR/2012/OFR12\\_14/index.html](http://www.kgs.ku.edu/Publications/OFR/2012/OFR12_14/index.html).
- Layzell, A. L., 2012. A thousand years of drought and climate variability in Kansas: Implications for water resources management: Kansas Geological Survey, Open-File Report 2012-18.
- Liu, G., Wilson, B. B., Whittemore, D. O., and Butler, J. J., Jr., 2012, Ground-water model for Southwest Kansas Groundwater Management District No. 3: Future scenarios, Kansas Geological Survey Open-file Report 2012-3, 121 p.
- Lyle, S. A., Evans, C. S., Buchanan, R. C. and Sawin, R. S., eds., 2012, Northwest Kansas—Water conservation and consumption, energy and transportation, and the agricultural economy, 2012 Kansas Field Conference, field guide: Kansas Geological Survey, Open-File Report 2012-4, 84 p.
- Mandel, R. D., 2012, Geoarchaeology; in, *Archeological Investigations at Arkansas City, Kansas*, R. J. Hoard, ed.: Kansas Historical Society, Topeka, Kansas, Archeology Publication No. 26, p. 85–100.

- Mandel, R. D., 2012, Geoarchaeology of Area A; *in*, Agate Basin Archaeology at Beacon Island, North Dakota, M. D. Mitchell, ed.: Paleocultural Research Group, Arvada, Colorado, Monograph Series, Research Contribution No. 86, p. 9–25.
- Murphy, L. R., and Mandel, R. D., 2012, Paleoenvironmental context: The stable carbon isotope and phytolith record; *in*, Agate Basin Archaeology at Beacon Island, North Dakota, M. D. Mitchell, ed.: Paleocultural Research Group, Arvada, Colorado, Monograph Series, Research Contribution No. 86, p. 191–199.
- Newell, K. D., Sawin, R. S., and Brady, L. L., 2012, Gas from coal in Kansas: Kansas Geological Survey Public Information Circular 19 (revised), 4 p.
- Platt, B. F., 2012, Quantification of ichnological, paleoecological, paleohydrological, and paleoclimatological information from the Upper Jurassic Morrison Formation: unpublished Ph.D. dissertation, University of Kansas, Lawrence, 501 p.
- Sawin, R. S., and West, R. R., 2012, Field geology maps, Morris County, Kansas; preliminary field geology maps for Americus, Lake Kahola, and Wilsey SE 1:24,000-scale quadrangles: Kansas Geological Survey, Open-File Report 2012-5, 39 p.
- Smith, J. J., and Johnson, W. C., 2012, Preliminary geology field maps and stratigraphic column, Haskell County, Kansas (Ryus, Satanta, and Sublette USGS 7.5 minute quadrangle): Kansas Geological Survey, Open-File Report 2012-9, 3 sheets, scale 1:24,000.
- Smith, J. J., and Sleezer, R., 2012, Preliminary geology field maps and stratigraphic column, Harvey County, Kansas (Peabody NW, Elbing, and Whitewater USGS 7.5 minute quadrangles): Kansas Geological Survey, Open-File Report 2012-10, 3 sheets, scale 1:24,000.
- Suchy, D. R., 2012, The mineral industry of Kansas; *in*, U.S. Geological Survey, Area Reports—Domestic: U.S. Geological Survey Minerals Yearbook 2008, v. II, 406 p., p. 18.0–18.5, <http://minerals.usgs.gov/minerals/pubs/state/ks.html>.
- Watney, W. L., 2012, Ninth, tenth, eleventh, and twelfth quarter progress reports—Modeling CO<sub>2</sub> sequestration in saline aquifer and depleted oil reservoir to evaluate regional CO<sub>2</sub> sequestration potential of Ozark Plateau Aquifer System, south-central Kansas: NETL-DOE Contract DE-FE0002056.
- Watney, W. L., and Birdie, T., 2012, First, second, third, and fourth quarter progress reports—Small scale field test demonstrating CO<sub>2</sub> sequestration in Arbuckle saline aquifer and by CO<sub>2</sub>-EOR at Wellington Field, Sumner County, Kansas: NETL-DOE Contract DE-FE0006821.
- Whittemore, D. O., 2012, Distribution and change in salinity in the Equus Beds aquifer in the Burrton Intensive Groundwater Use Control Area: Kansas Geological Survey Open-file Report 2012-1, 33 p.
- Whittemore, D. O., 2012, Geochemical identification of saline water from an irrigation well in north-central Stafford County, Kansas: Kansas Geological Survey Open-file Report 2012-21, 5 p.

## **Computer Software**

- Gagnon, G. F., 2012, LEO 7.12.11.19, (<http://www.kgs.ku.edu/software/LEO/index.html>).
- Gagnon, G. F., 2012, LEOWEB 11, (<http://chasm.kgs.ku.edu/apex/f?p=120418>).
- Victorine, J. R., 2012, PffEFFER-java Web Site (<http://www.kgs.ku.edu/software/PffEFFER-java/>).
- Victorine, J. R., 2012, Drill Stem Test (DST) Data Entry & Quantitative Analysis Web Site (<http://www.kgs.ku.edu/software/DST/>).
- Victorine, J. R., 2012, Synthetic Seismic Profile Plot Web Site (<http://www.kgs.ku.edu/software/SS/>).
- Victorine, J. R., 2012, Digitize Electric Well Log (E-Log) Image Plot Web Site (<http://www.kgs.ku.edu/software/DEWL/>).
- Victorine, J. R., 2012, Predicting the Density and Viscosity of Supercritical Carbon Dioxide Applet (<http://www.kgs.ku.edu/PRS/Ozark/CO2/>).
- Victorine, J. R., 2012, Type Logs Project Web Site ([http://www.kgs.ku.edu/PRS/Ozark/TYPE\\_LOG/](http://www.kgs.ku.edu/PRS/Ozark/TYPE_LOG/)).

## **Abstracts**

- Bailey, B.L., Steeples, D.W., Miller, R.D., Peterie, S.L., Ivanov, J., and Markiewicz, R., 2012, Implications of Vp/Vs ratio on shallow P and S reflection correlation and lithology discrimination [Abs.]: Symposium on the

- Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2013), Denver, Colorado, March 17-21, 2013. Published on CD.
- Barker, R., Watney, W. L., Scheffer, A., Ford, S., and Datta, S., 2012, Geochemical and mineralogical characterization of the Arbuckle aquifer: Studying mineral reactions and its implications for CO<sub>2</sub> sequestration, GSA Annual Meeting, Charlotte, Nov. 4–7.
- Benson, B. E., Tsoflias, G., and Mandel, R. D., Geophysical investigations of the Mound City borrow pits, Ross County, Ohio. Presented at the Annual Meeting of the Society of Exploration Geophysicists, Las Vegas, Nevada, November 2012. (Invited)
- Benson, G. S., Franseen, E. K., Goldstein, R. H., and Li, Z., 2012, Data collection, interpretation, and geologic modeling of outcrop: Cerro La Molata, Cabo de Gata, Spain: AAPG/SPE/SEG Hedberg Research Conference, Fundamental Controls on Flow in Carbonates, July 8–13, 2012, Saint-Cyr Sur Mer, Provence, France, 4 p. Extended abstract.
- Bohling, G. C., Liu, G., and Butler, J. J., Jr., Adaptive integration of auxiliary information into inverse problems: Application to direct-push hydraulic profiling, Abstract H41K-04 presented at 2012 Fall Meeting, AGU, San Francisco, Dec. 2012.
- Boss, S. K., Cothren, J., Suarez, C., Williamson, M., Platt, B. F., and Kvamme, J. A., 2012, Wide-field LIDAR imaging and online interactive measurement of a dinosaur trackway site from southwest Arkansas, USA: Geological Society of America Abstracts with Programs, v. 44.
- Brookfield, A., Ensz, A., Stover, S., Wilson, B., Lyon, A., and Beightel, C., 2012. Republican River basin study: The start of a multi-state research effort. Presentation with abstract, Governor's Conference on the Future of Water in Kansas, Manhattan, Kansas, October 30–31.
- Brookfield, A. E., and Sudicky, E. A., 2012, Implications of hyporheic flow on temperature-based estimates of GW/SW interactions. Presentation with published abstract, AGU 2012 Fall Meeting, San Francisco, California, Dec. 3–7.
- Brookfield, A., Wilson, B., Stover, S., Ensz, A., Beightel, C. and Lyons, A., 2012, Managing the water resources of the lower Republican River basin. Presentation with published abstract, GSA 2012 Annual Meeting, Minneapolis, Minnesota, November 4–7.
- Butler, J. J., Jr., Zheng, C., Hyndman, D.W., Bianchi, M., and Gorelick, S., 2012, A generation of research at the MADE site and a view to the future, Abstract 8556 presented at 2012 Ground Water Summit, NGWA, Garden Grove, California, May 2012.
- Dempsey, E. C., Mandel, R. D., and Hanson, P. R., 2012, Landscape evolution and geoarchaeology of the Current River Valley, Southeast Missouri. Presented at the Annual Midwest Archaeological Conference, East Lansing, Michigan, October 2012.
- Dempsey, E. C., Mandel, R. D., and Hanson, P. R., 2012, Late-Quaternary geoarchaeological investigations in the Current River Valley, Southeast Missouri. Poster presented at the 22<sup>nd</sup> Biennial Meeting of the American Quaternary Association, Duluth, Minnesota, June 2012.
- Dvoretzky, R. A., Goldstein, R. H., and Franseen, E. K., 2012, Static reservoir-analog modeling of focused-flow and dispersed-flow resedimented deep-water carbonate deposits: Upper Miocene, Agua Amarga Basin, Southeast Spain: AAPG Annual Meeting, Long Beach, California, April 2012.
- Fairchild, J., Franseen, E. K., and Goldstein, R. H., 2012, Paleotopography and sea-level controls on facies distribution and stratal architecture in the Westerville Limestone (Upper Pennsylvanian), NE Kansas and NW Missouri: AAPG Annual Meeting, Long Beach, California, April 2012.
- Franseen, E. K., 2012, Lower-Middle Mississippian shallow-water, mid-latitude heterozoan & siliceous sponge-spicule facies in a midcontinent setting, USA: 2012 GSA Annual Meeting & Exposition, Charlotte, North Carolina, November 4–7, 2012, Abstract # 209718.
- Fross, D., Sophocleous, M., Wilson, B., and Butler, J., 2012, Kansas High Plains Atlas. Governor's Conference on the Future of Water in Kansas, October 30–31, 2012, Manhattan, Kansas.
- Goldstein, R. H., Franseen, E. K., and Lipinski, C. J., 2012, Controls on high-frequency oolite-microbialite-coral reef sequences, Upper Miocene, SE Spain: AAPG Hedberg Research Conference, Microbial Carbonate Reservoir Characterization, Houston, Texas, June 3–8, 2012, 4 p. Extended abstract.
- Goldstein, R. H., Li, Z., and Franseen, E. K., 2012, Duration and climate effects on meteoric diagenesis: Non-Karstic control on distribution of porosity and permeability: AAPG/SPE/SEG Hedberg Research Conference, Fundamental Controls on Flow in Carbonates, July 8–13, 2012, Saint-Cyr Sur Mer, Provence, France, 4 p. Extended abstract.
- Harlow, H. R., Ludvigson, G. A., Smith, J. J., Doveton, J. H., and Petronis, M., 2012, Stratigraphic, chemostratigraphic, and geochemical investigations of the first intact drill core of the Neogene High Plains

- Succession in western Kansas: Geological Society of America, Abstracts with Programs, v. 44, no. 7, p. 585.
- Hoopes, J. W., Mandel, R. D., Stinson, P. M., and Egitto, A. C., 2012, Longterm water security in Afghanistan: Lessons from archaeology and history. Presented at the Environmental Security Conference, University of Kansas, Lawrence, Kansas, April 2012.
- Jackson, C., Scheffer, A., Fowle, D., Watney, W. L., Strazisar, B., and Roberts, J. A., 2012, Geochemical and microbiological influences on seal integrity during SC-CO<sub>2</sub> exposure, Arbuckle aquifer, SE Kansas, GSA Annual Meeting, Charlotte, Nov. 4–7.
- Judy, B. E., and Miller, R. D., 2012, High-resolution seismic reflection imaging of the natural salt-dissolution front of the Hutchinson Salt Member [Abs.]: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2013), Denver, Colorado, March 17–21, 2013. Published on CD.
- Knobbe, S., Liu, G., Butler, J. J., Jr., and Reboulet, E. C., 2012, A new thermal method for characterizing groundwater flux variations, Abstract 8448 presented at 2012 Ground Water Summit, NGWA, Garden Grove, California, May 2012.
- Li, Z., Goldstein, R. H., and Franseen, E. K., 2012, Diagenetic controls on porosity and permeability in Upper Miocene carbonates, La Molata, SE Spain: AAPG Annual Meeting, Long Beach, California, April 2012.
- Lipinski, C. J., Franseen, E. K., and Goldstein, R. H., 2012, Reservoir analog model for oolite-microbialite sequences, Miocene terminal carbonate complex, Spain: AAPG Hedberg Research Conference, Microbial Carbonate Reservoir Characterization, Houston, Texas, June 3–8, 2012, 4 p. Extended abstract.
- Liu, G., Butler, J. J., Jr., Knobbe, S., Reboulet, E. C., and Bohling, G. C., 2012, High-resolution hydraulic conductivity profiling with direct-push methods, Abstract 8528 presented at 2012 Ground Water Summit, NGWA, Garden Grove, California, May 2012.
- Liu, G., Knobbe, S., Butler, J. J., Jr., and Reboulet, E. C., 2012, A new method for characterizing groundwater flux variations, 21st Annual Kansas Hydrology Seminar, Topeka, Kansas.
- Lorenz, J. C., Cooper, S. P., Watney, W. L., Robertson, R., 2012, Natural fractures in limestone vs. dolomite: Comparing fracture characteristics in the Canyon (Sacroc Field, TX) and the Arbuckle (Wellington Field, KS) Formations: April 22–15, AAPG Annual Meeting, Long Beach, California.
- Ludvigson, G. A., González, L. A., Fowle, D. A., Roberts, J. A., Driese, S. G., Suarez, C. A., and Villarreal, M. A., 2012, The paleoclimatic record of pedogenic siderites: Validation by modern process studies and new applications to the Cretaceous Arctic (Invited): American Geophysical Union Fall Meeting, San Francisco, California; PP33D-06.
- Ludvigson, G. A., González, L. A., Fowle, D. A., Roberts, J. A., Driese, S. G., Villarreal, M. A., and Suarez, M., 2012, What's the low down on soil-formed siderite?: Modern process studies and validation of a deep-time terrestrial paleoclimate proxy: Geological Society of America, Abstracts with Programs, v. 44, no. 7, p. 363.
- Ludvigson, G. A., González, L. A., Suarez, M. B., Joeckel, R. M., Kirkland, J. I., You, H., Suarez, C. A., and Murphy, L. R., 2012, Progress and prospects for carbon isotope chemostratigraphy of Early Cretaceous terrestrial strata: Geological Society of America, Abstracts with Programs, v. 44, no. 5, p. 62–63.
- Lynott, M. J., Mandel, R. D., Brown, J. A., and Ruby, B., 2012, Earthen monument construction at Mound City, Ross County, Ohio: 2009–2011 Investigations. Presented at the 77<sup>th</sup> annual meeting of the Society for American Archaeology, Memphis, Tennessee, April 2012. (Invited)
- Mandel, R. D., 2012, Inferring Late-Quaternary flood magnitudes from buried alluvial paleosols in the Central Great Plains, USA. Presented at the annual meeting of the Geological Society of America, Charlotte, North Carolina, October 2012. (Invited)
- Mandel, R. D., 2012, Stratigraphy, geoarchaeology, and paleoenvironments of Late-Quaternary valley fills in draws on the High Plains of western Kansas. Poster presented at the 22<sup>nd</sup> biennial meeting of the American Quaternary Association, Duluth, Minnesota, June 2012.
- Mandel, R. D., 2012, The search for paleoindian and pre-paleoindian sites in the Central Great Plains of North America: A soils-geomorphic approach. Presented at the 77<sup>th</sup> annual meeting of the Society for American Archaeology, Memphis, Tennessee, April 2012. (Invited)
- Mandel, R. D., Stinson, P. M., Hoopes, J. W., and Egitto, A. C., 2012, Modeling cultural landscapes and water resources: A case study in Afghanistan. Presented at the 4<sup>th</sup> annual meeting of the COCOM Cultural Heritage Action Group, Arlington, Virginia, September 2012. (Invited)
- Miller, R. D., 2012, Near-surface seismic: More than a problem of scale [Abs.]: Abstracts of Lectures and Posters, GeoHannover 2012, October 1–3, p. 40.
- Murphy, L. R., and Mandel, R. D., 2012, Paleoenvironmental reconstruction at the Beacon Island Site, a paleoindian bison kill in northwestern North Dakota. Presented at the 77<sup>th</sup> annual meeting of the Society for American Archaeology, Memphis, Tennessee, April 2012.



- Oborny, S., Cramer, B. D., Ludvigson, G. A., and Henthorne, R., 2012, Limestone aggregate resources in northeast Kansas: Integrated lithostratigraphy, stable isotope chemostratigraphy, and cathodoluminescence as a tool to evaluate current and potential aggregate resources in Miami County, Kansas: Geological Society of America, Abstracts with Programs, v. 44, no. 7, p. 130.
- Ortega-Ariza, D., and Franseen, E. K., 2012, Sequence development of the Late Miocene mixed carbonate-siliciclastic Cercado Formation, NW Dominican Republic: AAPG Annual Meeting, Long Beach, California, April 2012.
- Parsekian, A., Dlubac, K., Butler, J., Grunewald, E., Knight, R., and Walsh, D., 2012, Borehole NMR permeability estimates and uncertainty in an unconsolidated fluvial aquifer, Kansas, USA, Abstract 1602 presented at the 2012 SAGEEP Conference, Environmental and Engineering Geophysics Society, Tucson, Arizona, March 28, 2012.
- Peterie, S. L., Miller, R. D., Ivanov, J., Schwenk, J. T., Bailey, B. L., Schwarzer, J., and Markiewicz, R. D., 2012, Multi-method determination of continuous 2D velocity profiles from the surface to 1 km [Abs.]: 2012 AGU Fall Meeting, San Francisco, California, December 3-7.
- Platt, B. F., Smith, J. J., and Ludvigson, G. A., 2012, Ichnology and calcrete stratigraphy of the Neogene Ogallala Formation, High Plains of western Kansas: Geological Society of America, Abstracts with Programs, v. 44, no. 7, p. 530.
- Scheffer, A., Stotler, R. L., Watney, W. L., Fowle, D., Doveton, J. H., Rush, J., Newell, K. D., Fazelalavi, M., Whittemore, D. O., and Roberts, J. A., 2012, Geochemical, microbiological, and permeability characteristics indicating vertical zonation of the Arbuckle saline aquifer, a potential CO<sub>2</sub> storage reservoir, GSA Annual Meeting, Charlotte, Nov. 4–7.
- Scheffer, A., Watney, W. L., Fowle, D. A., and Roberts, J. A., 2012, Geochemical and microbiological influences on seal integrity during SC-CO<sub>2</sub> exposure, Arbuckle aquifer, SE Kansas, Kansas Interdisciplinary Carbonate Consortium, Lawrence.
- Schwenk, J. T., Miller, R. D., Ivanov, J., Peterie, S. L., and Sloan, S. D., 2012, Analysis of synthetic seismograms for the detection of voids using the surface-wave backscatter-analysis technique [Abs.]: 2012 AGU Fall Meeting, San Francisco, California, December 3-7.
- Sirazhiev, A., Tsoflias, G. P., and Watney, W. L., 2012, Relating seismic amplitude and frequency response to porosity variability at the top of the Mississippian chert, south-central KS, Kansas Interdisciplinary Carbonate Consortium, Lawrence.
- Smith, J. J., Platt, B. F., Thomasson, J., Packauskas, R. J., Flores, T., Leiker, J., Walters, G., Barrick, R., and Ludvigson, G. A., 2012, A cast of thousands: preliminary analysis of a western harvester ant nest cast in aluminum from western Kansas and comparisons with ichnofossils of purported Formicidae construction. Geological Society of America, Abstracts with Program, v. 44, no. 7, p. 501.
- Smith, J. J., Sleezer, R. O., Platt, B. F., Ludvigson, G. A., and Harlow, R. H., 2012, Geologic mapping and subsurface investigations of Equus Beds aquifer sediments in south-central Kansas: Geological Society of America Abstracts with Programs, v. 44, no. 7, p. 259.
- Sophocleous, M. A., 2012, How water law and management practices are evolving towards groundwater sustainability in Kansas and possible new steps to accelerate this process. NGWA 2012 Groundwater Summit, Garden Grove, California, May 8, 2012 (<http://groundwatersummit.org/program/>).
- Sophocleous, M. A., 2012, How the State of Kansas is addressing the water stress related problems of the High Plains/Ogallala aquifer. Water for Food 2012 Global Conference, Lincoln, Nebraska, May 31, 2012.
- Sophocleous, M. A., 2012, Conserving and extending the useful life of the largest aquifer in North America: The High Plains/Ogallala aquifer. IAH 2012 Congress, Niagara Falls, Canada, September 16–21, 2012.
- Sophocleous, M. A., 2012, Management strategies for aquifers threatened by unsustainable water use: The case of the High Plains aquifer in Kansas. Geological Society of America, November 4–7, 2012, Annual Meeting, Charlotte, North Carolina.
- Sophocleous, M. A., 2012, Conserving and extending the useful life of the High Plains/Ogallala aquifer in Kansas. Governor's Conference on the Future of Water in Kansas, October 30–31, 2012, Manhattan, Kansas.
- Stotler, R. L., Butler, J. J., Jr., Whittemore, D. O., and Reboulet, E. C., 2012, Groundwater age and water levels in the High Plains aquifer, Abstract 8515 presented at 2012 Ground Water Summit, NGWA, Garden Grove, California, May 2012.
- Suarez, M. B., Ludvigson, G. A., González, L. A., and You, H., 2012, Linking Cretaceous continental climate change and ocean anoxic events: Evidence from the Xiagou Formation of Gansu Province, China: American Geophysical Union Fall Meeting, San Francisco, California, PP41C-01.
- Warusavitharana, C., Parcell, W. C., and Franseen, E. K., 2012, Outcrop and subsurface characterization of

- microbialite facies in the Ordovician Arbuckle Group of Missouri and Kansas: AAPG Hedberg Research Conference, Microbial Carbonate Reservoir Characterization, Houston, Texas, June 3–8, 2012, 6 p. Extended abstract.
- Watney, W. L., 2012, Business implications of a Class VI permit—The long view?—A Kansas perspective, putting the business elements together for CO<sub>2</sub> EOR using captured carbon, April 4–5, 2012, Golden, Colorado, sponsored by Permian Basin CCUS Center and Colorado PTTC.
- Watney, W. L., 2012, Carbon sequestration in Kansas update on DOE funded projects—a) characterization of CO<sub>2</sub> sequestration capacity southern Kansas (FE0002056) b) small scale field test at Wellington Field, Sumner County (FE0006821), August 8, Kansas Environmental Conference, Wichita, Kansas.
- Watney, W. L., 2012, Modeling CO<sub>2</sub> sequestration in saline aquifer and depleted oil reservoir to evaluate regional CO<sub>2</sub> sequestration potential of Ozark Plateau aquifer system, South-Central Kansas Project Number (DE-FE0002056), August 21, NETL Carbon Storage R&D Project Review Meeting, Pittsburgh, Pennsylvania.
- Watney, W. L., 2012, Small scale field test demonstrating CO<sub>2</sub> sequestration in Arbuckle saline aquifer and by CO<sub>2</sub>-EOR at Wellington Field, Sumner County, Kansas Project Number DE-FE0006821, August 22, NETL Carbon Storage R&D Project Review Meeting, Pittsburgh, Pennsylvania.
- Watney, W. L., Rush, J., Doveton, J., Fazelalavi, M., Newell, K. D., Hedke, D., Scheffer, A., Roberts, J., Fowle, D., Wreath, D., Koudele, R., Gerlach, P., Nicholson, L., Hansen, T., Victorine, J., Tsoflis, G., Sirazhiev, A., Barker, R., and Datta, S., 2012, Geologic assessment of the Mississippian System in southern Kansas incorporating log and core petrophysics and seismic data from Wellington Field, Sumner County, Kansas, AAPG GeoScience Technology Workshop (GTW), New Directions in Carbonates, February 27–29, 2012, Fort Worth, Texas.
- Watney, W. L., Rush, J., Doveton, J., Fazelalavi, M., and Scheffer, A., 2012, Geologic assessment of the Mississippian system in southern Kansas incorporating log and core petrophysics and seismic data from Wellington Field, Sumner County, Kansas, Kansas Interdisciplinary Carbonate Consortium, Lawrence.
- Whittemore, D. O., 2012, Long-term changes in chloride and nitrate concentrations in the Wichita well field: Transactions of the Kansas Academy of Science, v. 115, no. 1/2, p. 80.
- Whittemore, D. O., Butler, J. J., Jr., Reboulet, E. C., Rajaram, H., Solis, J. A., Stotler, R. L., Knobbe, S. J., Dealy, M. T., and Kluitenberg, G. J., 2012, Contrasts in stream-aquifer interactions driven by hydrogeology and geomorphology, Geological Society America, Abstracts with Programs v. 44, no. 7, p. 355, Charlotte, North Carolina, November 2012.
- Whittemore, D. O., and Wilson, B. B., 2012, Beyond (and beneath) the Ogallala: Water resources in the Dakota aquifer in Kansas: National Ground Water Association, Program with abstracts, Conference on Great Plains Aquifers, Omaha, Nebraska.
- Whittemore, D. O., and Wilson, B. B., 2012, Water resources of the Dakota aquifer in Kansas: 29<sup>th</sup> Annual Water and Future of Kansas Conference, Topeka, Kansas.
- Zeigler, K. E., Petronis, M. S., Smith, J. J., Ludvigson, G. A., and Doveton, J., 2012, The Neogene Ogallala Formation in southwestern Kansas and northeastern New Mexico: Preliminary magnetostratigraphic analyses for the High Plains-Ogallala drilling program. American Geophysical Union Fall Meeting, San Francisco, California, GC33C-1032.
- Zeigler, K. E., Petronis, M. S., Smith, J. J., Ludvigson, G. A., and Doveton, J., 2012. Preliminary magnetostratigraphic analyses of the Neogene Ogallala Formation in southwestern Kansas and northeastern New Mexico for the High Plains-Ogallala drilling program. Geological Society of America, Rocky Mountain Section—64th Annual Meeting, Abstracts with Programs, v. 44, no. 6.
- Zung, A. B., Feddema, J. J., and Mandel, R. D., 2012, Using buried soils to reconstruct past climate: A quantitative approach, Soil Science Society of America Annual Meeting, Cincinnati, Ohio, October 2012.
- Zung, A. B., and Mandel, R. D., 2012, Late-Quaternary landscape evolution of the Caddo Canyons, Central Oklahoma. Poster presented at the 22<sup>nd</sup> Biennial Meeting of the American Quaternary Association, Duluth, Minnesota, June 2012.
- Zung, A. B., Mandel, R. D., and Feddema, J. J., 2012, Applying a quantitative method for reconstructing Late-Quaternary climate on the U.S. Great Plains based on buried soil properties. Presented at the Annual Meeting of the Geological Society of America, Charlotte, North Carolina, October 2012.



## **Presentations**

- Benson, G. S., Franseen, E. K., Goldstein, R. H., and Li, Z., Data Collection, Interpretation, And Geologic Modeling Of Outcrop: Cerro La Molata, Cabo de Gata, Spain: ExxonMobil FC<sup>2</sup> Conference, Houston, Texas, Nov. 8–9, 2012.
- Butler, J., Direct-Push Methods For Hydrogeologic Characterization (sole instructor), Kansas Department of Health and Environment, Topeka, Kansas, Jan. 30, 2012.
- Butler, J., Presentations on the Index Well Program and the Megawatershed Theory, 2012 Kansas Field Conference, June 6–7, 2012.
- Butler, J. J., Jr., Interpretation of water-well hydrographs from the High Plains aquifer: New insights from an old “tool”: Universitat Politècnica de València, Valencia, Spain, Oct. 23, 2012.
- Butler, J. J., Jr., Interpretation of well hydrographs: New insights into aquifer management from an old “tool”: Centre d’hydrogéologie et de géothermie, Université de Neuchâtel, Neuchâtel, Switzerland, Nov. 6, 2012.
- Butler, J., and Stotler, R., Presentation on the Index Well Program, Kansas Water Office, May 14, 2012.
- Dunham, J. W., Flint Hills Ecoregion. Map Gallery (poster) presentation, ESRI International User Conference, San Diego, California, July 23, 2012.
- Dunham, J. W., Surficial Geology of Saline County, Kansas. Map Gallery (poster) presentation, ESRI International User Conference, San Diego, California, July 23, 2012.
- Dunham, J. W., Surficial Geology of Saline County, Kansas. Electronic poster presentation, 13th Biennial MidAmerica GIS Symposium, MidAmerica GIS Consortium (MAGIC), Kansas City, Missouri, April 23, 2012.
- Franseen, E. K., The enigma of Osagean Low-Latitude, Shallow-Water Heterozoan & Biosiliceous Facies OR The Mississippian Lime Play: Pack Your Bags, We’re Heading North: Kansas Geological Survey Stratigraphic Research Seminar Series No. 23, Nov. 20, 2012.
- Franseen, E. K., The Geoscientist Retention & Recruitment Crisis, Kansas Geologic Survey Advisory Council, August 2012.
- Franseen, E. K., The Kansas Interdisciplinary Carbonates Consortium (KICC), Kansas Geologic Survey Advisory Council, April 2012.
- Franseen, E. K., Session Chair—Carbonates in Time and Space: Sedimentology, Stratigraphy, and Diagenesis: 2012 GSA Annual Meeting & Exposition, Charlotte, North Carolina.
- Franseen, E. K., Session Chair—Microbial Carbonate Reservoirs, Reservoir Analogs, and Geologic Models: AAPG Hedberg Research Conference, Microbial Carbonate Reservoir Characterization, Houston, Texas, June 3–8, 2012.
- Franseen, E. K., Session Chair—Interplay of Evaporites and Carbonates Including Microbialites: 2013 AAPG Annual Convention, Pittsburgh, Pennsylvania, May 19–22. Reviewed & selected abstracts in 2012.
- Franseen, E. K., Session Chair—Modern Carbonates: 2013 AAPG Annual Convention, Pittsburgh, Pennsylvania, May 19–22. Reviewed & selected abstracts in 2012.
- Franseen, E. K., Session Chair—Carbonates and Evaporites I & II: 2013 AAPG Annual Convention, Pittsburgh, Pennsylvania, May 19–22. Reviewed & selected abstracts in 2012.
- Franseen, E. K., Co-Instructor for Shell Oil Brazil and Total Oil Company geoscientists to Miocene-Pliocene Carbonate Complexes, SE Spain, Aug. 28–Sept. 2, 2012.
- Franseen, E. K., Organized and co-convended KICC Annual Meeting, April 2–3, 2012.
- Franseen, E. K., Organized and co-led KICC Annual Meeting field trip, March 4–6, 2012.
- Franseen, E. K., and Goldstein, R. H., Build and Fill Sequences In Carbonate-Dominated Systems: Towards Predictive Models From Global Examples Throughout The Rock Record: Kansas Interdisciplinary Carbonate Consortium Annual Review Meeting, 2012.
- Gagnon, G. F., LEOWEB & Design Methodology, GIS Policy Board, Topeka, Kansas, July 13, 2012.
- Layzell, A. L., Historic Kansas Droughts, keynote address, 68th annual convention of Kansas Association of Conservation Districts, Wichita, Kansas, Nov. 19, 2012.
- Lechtenberg, K. S., Goldstein, R. H., and Franseen, E. K., Evaluating Build-and-Fill Architecture of Lower Ismay (Pennsylvanian) Carbonates along the San Juan River, Utah—A Progress Report: Kansas Interdisciplinary Carbonate Consortium Annual Review Meeting, 2012.
- Li, Z., Goldstein, R. H., and Franseen, E. K., Early Diagenetic Effects on Redistribution of Porosity and Permeability in Upper Miocene Carbonates, La Molata, SE Spain: Kansas Interdisciplinary Carbonate Consortium Annual Review Meeting, 2012.

- Li, Z., Goldstein, R. H., and Franseen, E. K., Diagenetic Controls on Porosity and Permeability in Upper Miocene Carbonates, La Molata, SE Spain: ExxonMobil FC<sup>2</sup> Conference, Houston, Texas, Nov. 8–9, 2012.
- Liu, G., Recent Advances in Hydrogeologic Characterizations of the Shallow Subsurface Using Direct-Push and Distributed Temperature Sensing, KU Department of Geology Colloquium, Aug. 23, 2012.
- Ludvigson, G. A., What's Up with the Pedogenic Siderite Paleoclimate Proxy? Validation by Modern Process Studies and New Applications to the Cretaceous Arctic: Department of Geological Sciences, University of Missouri, Columbia, Missouri, Oct. 26, 2012.
- Ludvigson, G. A., The STATEMAP Geologic Mapping Program in Kansas: Kansas GIS Policy Board Meeting, Topeka, Kansas, March 9, 2012.
- Lyle, S. A., Groundwater Information at the Kansas Geological Survey (oral presentation); Kansas Rural Water Conference, Annual Meeting, Wichita, Kansas, March 27–29, 2012.
- Miller, R. D., GeoBahrain International Meeting, President's Address.
- Miller, R. D., SEG Virtual Course, Working the problems of near-surface seismic reflection, December 2012 (2 courses).
- Miller, R. D., SEG 2012 Near Surface Honorary Lecturer, Near-surface seismic: More than a problem of scale (22 lectures):
- Kansas Geophysical Society, Wichita, Kansas, August 9.
  - Boise State University Geophysical Society, Boise, Idaho, September 4.
  - Colorado School of Mines Student Society, Golden, Colorado, September 6.
  - University of Texas at El Paso Geophysical Society, El Paso, Texas, September 7.
  - Rutgers-Newark Geophysical Society, University of Rutgers, Newark, New Jersey, September 12.
  - City College of New York Student Chapter, Department of Earth and Atmospheric Sciences, New York, September 13.
  - Korean Society of Earth and Exploration Geophysicists (KSEG) International Symposium on Geophysics for Discovery and Exploration, Jeju, South Korea, September 19.
  - Student Geoscientific Society Berlin & Potsdam, Freie Universität Berlin, Berlin, Germany, October 1.
  - German Geophysical Society, GeoZentrum Hannover, Hannover, Germany, October 3.
  - Near-Surface Geophysics Section, University of Lausanne, Switzerland, October 5.
  - South African Geophysical Association, Johannesburg, South Africa, October, 8.
  - University of Kansas Geophysical Society, Lawrence, Kansas, October 25.
  - China University of Petroleum Geophysical Society, Beijing, China, November 16.
  - China University of Geosciences, Wuhan, China, November 17.
  - Kyoto University Geophysical Society, Kyoto, Japan, November 19.
  - Society of Exploration Geophysicists Japan (SEGJ), Tokyo, Japan, November 20.
  - Australian Society of Exploration Geophysicists Queensland, Brisbane, Australia, December 5.
  - Australian Society of Exploration Geophysicists Victoria, Melbourne, Australia, December 6.
  - Australian Society of Exploration Geophysicists New South Wales, Sydney, Australia, December 7.
  - Australian Society of Exploration Geophysicists Australian Capital Territory, Canberra, Australia, December 10.
  - Australian Society of Exploration Geophysicists South Australia, Adelaide, Australia, December 12.
  - Australian Society of Exploration Geophysicists Western Australia, Perth, Australia, December 14.
- Ortega-Ariza, D., and Franseen, E. K., Evaluating Controls on Miocene Carbonate-Dominated Sequences in Puerto Rico and the Dominican Republic: Progress Report: Kansas Interdisciplinary Carbonate Consortium Annual Review Meeting, 2012.
- Platt, B. F., Integrating Ichnology with Sedimentology and Stratigraphy: Practical Applications and Research Directions: Department of Geology and Geological Engineering, University of Mississippi, Oxford, Mississippi, Dec. 4, 2012.
- Platt, B. F., Integrating Ichnology with Sedimentology and Stratigraphy: Practical Applications and Research Directions: Stratigraphic Research Seminar Series No. 24, Kansas Geological Survey, Lawrence, Kansas, Nov. 30, 2012.
- Platt, B. F., The Straw that Broke the Devil's Backbone: Trace Fossils in the Ogallala Formation, Western Kansas: Kansas and Missouri Paleontological Society, Park University, Parkville, Missouri, Nov. 18, 2012.
- Smith, J. J., Coring the Ogallala: Scientific Drilling in the High Plains of Western Kansas, KU Department of Geology Colloquium Series, 2012.
- Sophocleous, M. A., Invited colloquium speaker, Department of Geosciences, University of Missouri-Kansas City, on water resources sustainability and the Kansas water scene, March 15, 2012.

Sophocleous, M. A., Invited colloquium speaker, Department of Geosciences, University of Arkansas, Fayetteville, on groundwater sustainability and the High Plains aquifer, Oct. 12, 2012.

Sophocleous, M. A., Invited lecture, Unsaturated Zone Flow and Transport, for Prof. Devlin's Physical & Contaminant Hydrogeology class at the University of Kansas Department of Geology, Dec. 4, 2012.

Stolz, D., Goldstein, R. H., and Franseen, E. K., Distribution and Reservoir Character of Deep-Water Sedimentary Gravity Flow Deposits in the Avalon Shale Play of the Delaware Basin: Kansas Interdisciplinary Carbonate Consortium Annual Review Meeting, 2012.

Suchy, D. R., Invited public presentation for Douglas County Conservation District on water wells and groundwater in Douglas County, Aug. 21, 2012.

Tsau, J. S., Nguyen, M. C., Franseen, E., Goldstein, R., Benson, G., Ballard, M., and Liang, J., La Molata Model Simulation—Impact of Heterogeneous Carbonates on Flow Behavior and Oil Production: ExxonMobil FC<sup>2</sup> Conference, Houston, Texas, Nov. 8–9, 2012.

Tsoflias, G. P., Knoph, K., Franseen, E. K., and Goldstein, R. H., Ground-Penetrating Radar Imaging of Depositional and Diagenetic Features in an Upper Miocene Carbonate Reservoir Analog, SE Spain: Kansas Interdisciplinary Carbonate Consortium Annual Review Meeting, 2012.

Young, E., Goldstein, R. H., Franseen, E. K., and Watney, W. L., Stratigraphy, Porosity Evolution, and Fluid Flow History, Mississippian Lime, Southeast Kansas: Kansas Interdisciplinary Carbonate Consortium Annual Review Meeting, 2012.

Watney, W. L., Mississippian System and Horizontal Drilling in Kansas: Kansas Next Step Oil and Gas Seminar, Hays, Kansas, Aug. 2, 2012.

Watney, W. L., Mississippian Carbonates in Kansas, AAPG E-Symposium, Aug. 30, 2012.

Watney, W. L., Arbuckle Fluid Disposal Considerations—Regional and Local Perspectives in the Context of the Mississippian Play in Kansas, PTTC/TORP Oil and Gas in the Midcontinent, Wichita, Kansas, Dec. 4, 2012.

Watney, W. L., Integration of the Recently Drilled Basement Test at Cutter Field, Stevens County, Kansas, into the Evaluation of Regional CO<sub>2</sub> Storage Potential, Kansas Geological Society, Dec. 18, 2012.

Watney, W. L., et al., Geofest 2012, Kansas Geological Survey, focused on a review of the DOE funded CCUS research in a morning seminar and a core workshop in the afternoon to examine the entire 1600 ft long core from Wellington KGS #1-32, Lawrence, Kansas, Oct. 26, 2012.

Watney, W. L., and Rush, J., Kansas Geological Survey and collaborating team, Evaluating CO<sub>2</sub>-EOR and CO<sub>2</sub> Storage Capacity in Kansas, Kansas Geological Society, March 6, 2012.

Whittemore, D. O., Long-Term Changes in Chloride and Nitrate Concentrations in the Wichita Well Field: Kansas Academy of Science, 2012.

Whittemore, D. O., Contrasts in Stream-Aquifer Interactions Driven by Hydrogeology and Geomorphology: Geological Society of America, 2012.

Whittemore, D. O., and Wilson, B. B., Beyond (and Beneath) the Ogallala: Water Resources in the Dakota Aquifer in Kansas: National Ground Water Association, Conference on Great Plains Aquifers, Omaha, Nebraska, 2012.

Whittemore, D. O., and Wilson, B. B., Water Resources of the Dakota Aquifer in Kansas: 29<sup>th</sup> Annual Water and Future of Kansas Conference, Topeka, Kansas, 2012.

Wilson, B. B., Western Kansas GMD No. 1 Annual Meeting, March 2012.

Wilson, B. B., Southwest Kansas GMD No. 3 Annual Meeting, March 2012.

Wilson, B. B., Kansas Environmental Leadership Program, March 2012.

Wilson, B. B., Kansas Rural Water Conference, March 2012.

Wilson, B. B., Kansas Water Office Brownbag Professional Series, April 2012.

Wilson, B. B., Kansas Geological Survey's GIS Seminar, April 2012.

Wilson, B. B., Governor's Ogallala Stakeholder Meetings (Scott City and Garden City), August 2012.

Wilson, B. B., Kansas Farm Bureau Great Bend Producers Meeting, September 2012.

Wilson, B. B., Kansas Geological Survey's GeoFest, October 2012.

Wilson, B. B., Kansas Department of Agriculture, Division of Water Resource LEMA Public Hearing, November 2012.

Wilson, B. B., Western Kansas GMD No. 1 Board Meeting, November 2012.

Wilson, B. B., Kansas Farm Bureau—Wallace County Producers Meeting, December 2012.

Woodburn, T. L., Johnson, W. C., Dunham, J. W., and Phillips-Lander, C. M., Surficial geology of Hodgeman County, Kansas, poster presented by T. L. Woodburn, Geological Society of America 2012 Annual Meeting, Charlotte, North Carolina, November 5, 2012.

## **Awards**

- Butler, J.—Elected Member, Board of Directors, Scientists and Engineers Division, National Ground Water Association (2010–).
- Butler, J.—President-Elect, International Commission on Ground Water, International Association of Hydrological Sciences (2011–).
- Butler, J.—Sabbatical Leave Award, University of Kansas, 2012.
- Butler, J.—Sabbatical leave award for visiting professors and researchers, Spanish Ministry of Education, 2012.
- Dunham, J. W.—2012 Esri Cartography Special Interest Group Map Award for “Flint Hills Ecoregion,” Esri International User Conference.
- Franseen, E. K.—Elected as President of SEPM, the International Society for Sedimentary Geology, 2012.
- Franseen, E. K.—Journal of Sedimentary Research paper selected as a key research article in the earth sciences: Earth Emphasis (<http://earthemphasis.com/key-research-articles/>), 2012.
- Franseen, E. K.—SEPM 2012 Certificate of Recognition for Excellent Technical Presentation at National Meeting (replaces best presentation award).
- Layzell, A. L.—Governor's Award for Outstanding Graduate Poster, Governor's Conference on the Future of Water in Kansas, 2012.
- Ludvigson, G. A.—Elected Fellow, Geological Society of America, 2012.
- Mandel, R. D.—Kansas Board of Regents' Higuchi/Irvin E. Youngberg Award for Applied Sciences Research, 2012.
- Miller, R. D.—Elected, First Vice President, SEG Board, Nov. 2012–present.
- Miller, R. D.—Honorary Lecturer, Inaugural Near Surface, SEG, 2012.
- Miller, R. D.—Elected, SEG Second Vice President, Executive Committee, 2011–Nov. 2012.
- Platt, B. F.—Defended dissertation with honors, KU Geology Department, May 2012.
- Platt, B. F.—Kansas Geological Survey Lee C. and Darcy Gerhard Field Research Student Award, 2012.
- Platt, B. F.—Presented graduation robe and hood of N. Gary Lane (KU Geology MS '54, PhD '58), May 2012.
- Platt, B. F.—Publication (Platt et al., 2012) featured on BioOne, December 2012.
- Watney, W. L.—KU Employee of the Month, March 2012.

## **Internal Service**

- Brookfield, A. E.—Courtesy Faculty, KU Department of Geology (2010–present).
- Brookfield, A. E.—Serving on dissertation committee at KU Dept. of Geology (Ph.D.) Rubina Firudous.
- Brookfield, A. E.—2012 KGS Student Awards Committee, Chair.
- Brookfield, A. E.—Taught Geology 591/791, Differential Equations for Hydrology, Spring 2013.
- Butler, J.—Co-Chair, Search Committee for Hydrogeologist to lead and coordinate High Plains aquifer activities in the Geohydrology Section.
- Butler, J.—Chair, Search Committee, Applied Geohydrology Summer Research Assistantship Program.
- Butler, J.—Associate, Center for East Asian Studies, University of Kansas.
- Butler, J.—Core Faculty Member, Center for Global and International Studies, University of Kansas.
- Butler, J.—Courtesy Full Professor, Department of Geology, University of Kansas.
- Butler, J.—Member, University of Kansas Office of the Vice Provost for Research and Graduate Studies Promotion Committee (through first quarter of 2012).
- Deputy, J.—Member of KOLAR Web Developer search committee.
- Dunham, J. W.—KGS search committee for Editor position.
- Evans, C. S.—KGS search committee for Editor position.
- Franseen, E. K.—Member—Promotion and Tenure Committee, Department of Geology, University of Kansas.
- Franseen, E. K.—Member—Graduate Students Admissions Committee, Department of Geology, University of Kansas.
- Franseen, E. K.—Member—Search Committee for Petroleum Engineer, Chemical and Petroleum Engineering Department, University of Kansas.
- Franseen, E. K.—Teaching Evaluator, Department of Geology, University of Kansas.

Franseen, E. K.—Sophomore Advising, Department of Geology, University of Kansas.

Franseen, E. K.—Instructor for Geology 79—Carbonate Sequence Stratigraphy/Modeling, spring semester, Department of Geology, University of Kansas.

Franseen, E. K.—Students Supervised:

- Chair—Diana Ortega-Ariza, Ph.D., Expected Spring 2014.
- Co-Chair—Katharine Knoph, MS, Completed Summer 2011.
- Co-Chair—Anya Hess, MS, Completed Fall 2011.
- Co-Chair—Dustin Stolz, MS, Expected Summer 2013.
- Co-Chair—Rafferty Sweeney, MS, Expected Fall 2012.
- Co-Chair—Zhaoqi Li, Ph.D., Expected Fall 2012.
- Co-Chair—Karen Ohmes-Lechtenburg, MS, Expected Fall 2012.
- Co-Chair—Justin Fairchild, MS, Expected Fall 2012.
- Co-Chair—Nicholas Welsh, MS, Expected Fall 2014.
- Member—Brad King, MS committee.
- Member—Alejandra Rodriguez, MS committee.
- Member—Jason Rush, Ph.D. committee.

Franseen, E. K.—Member—Stratigraphic Nomenclature Committee, Kansas Geological Survey.

Franseen, E. K.—Member—KGS Admin. Evaluation & Salary Process, Kansas Geological Survey.

Franseen, E. K.—Member—Search committee for Budget Director, Kansas Geological Survey.

Franseen, E. K.—Member—Editorial Board for Current Research on Kansas Geology Bulletin, Kansas Geological Survey.

Liu, G.—Courtesy Assistant Professor, Department of Geology, University of Kansas.

Liu, G.—Member of search committee, Energy Research Section (Geoscientist Position).

Liu, G.—Member of search committee, Energy Research Section (Petroleum Engineer Position).

Liu, G.—Member of search committee, Geohydrology Section (High Plains program leader Position).

Liu, G.—Current Graduate Student Advisees—

- Brant Konetchy, M.S., Department of Geology, University of Kansas (Chair).
- Angela Thompson, M.S., Department of Geology, University of Kansas.

Ludvigson, G. A.—Host & coordinator, KGS Stratigraphic Research Seminar on Integrating Ichnology with Sedimentology and Stratigraphy: Practical Applications and Research Directions (by Brian Platt, Kansas Geological Survey), November 2012.

Ludvigson, G. A.—Host & coordinator, KGS Stratigraphic Research Seminar on The Enigma of Osagean Low-Latitude, Shallow-Water Heterozoan & Biosiliceous Facies (by Evan Franseen, Kansas Geological Survey), November 2012.

Ludvigson, G. A.—Host & coordinator, KU Geology Colloquium presentation on Obliquity forcing and the amplification of high-latitude climate processes during Oceanic Anoxic Event 2 (by Stephen R. Meyers, University of Wisconsin-Madison), October 2012.

Ludvigson, G. A.—Host & coordinator, KU NSF IGERT C-Change Colloquium presentation on Future climate change: Clues from the deep past (by Dana Royer, Wesleyan University), October 2012.

Ludvigson, G. A.—Host & coordinator, KGS Stratigraphic Research Seminar on High Fidelity: The Deep Time Earth History Revolution (by Brad Cramer, Kansas Geological Survey), July 2012.

Ludvigson, G. A.—Member, KGS Stratigraphic Nomenclature Committee.

Ludvigson, G. A.—STATEMAP Coordinator for the KGS.

Ludvigson, G. A.—Service on KGS Search Committee for hiring Administrative Assistant to the Director.

Ludvigson, G. A.—Service on KGS Search Committee for hiring Field Research Assistant in Exploration Services Section.

Ludvigson, G. A.—Service on KU Geology Search Committee for the Ritchie Distinguished Professorship in Sedimentary Geology.

Ludvigson, G. A.—Service on KU Geology Search Committee for tenure-track position in Thermochronology (2012-1013 academic year).

Ludvigson, G. A.—Co-instructor for the KU NSF IGERT Program Graduate Seminar: EVRN 701 Climate Change, Ecological Change, Social Change; August–December 2012.

Ludvigson, G. A.—Research hours faculty supervisor for KU graduate students Hunter Harlow (Jan–Dec 2012) and Jeff Ross (Aug–Dec 2012); KU undergraduate student Stephan Oborny (Aug–Dec 2012).

Ludvigson, G. A.—Mentored KGS Postdoctoral researcher Dr. Brad Cramer (Feb–Aug 2012).

Ludvigson, G. A.—Co-mentored KGS Postdoctoral researcher Dr. Brian Platt (Aug–Dec 2012).

Ludvigson, G. A.—Cochaired M.S. thesis committee for KU MS student Mark Villarreal.  
 Ludvigson, G. A.—Co-chairing M.S. thesis committee for KU MS student Hunter Harlow.  
 Ludvigson, G. A.—Co-chairing Ph.D. Dissertation Committee for KU doctoral candidate Tony Layzell.  
 Miller, R. D.—KU Faculty Senate Research Committee, 2011-2012.  
 Miller, R. D.—KU RGS Research Achievement Award Selection Committee, 2008-2012.  
 Miller, R. D.—KGS Current Research Bulletin Advisory Board, 1992-present.  
 Miller, R. D.—KGS Borehole Standards, Remediation, and Reclamation Committee, Chair, 1990-present.  
 Miller, R. D.—KGS Emergency Preparedness Committee, 1987-present.  
 Miller, R. D.—Thesis committee member: Amanda Livers, masters, University of Kansas (chair); Jordan Nolan, masters, University of Kansas (chair); Yao Wang, masters, University of Kansas (chair); Bevin Bailey, masters, University of Kansas (co-chair); Tyler Schwenk, masters, University of Kansas (chair); Craig Hendrix, masters, University of Kansas (chair).  
 Platt, B. F.—Taught GEOL 532: Stratigraphy, Fall 2012.  
 Sawin, R. S.—KGS Stratigraphic Nomenclature Committee (Chair).  
 Sawin, R. S.—Search committee member for KGS Librarian/Archivist.  
 Sawin, R. S.—Search committee member for KGS Editor.  
 Smith, J. J.—Courtesy Faculty, KU Department of Geology.  
 Smith, J. J.—Member of search committee for Hydrogeologist position, KGS.  
 Smith, J. J.—Member of search committee for Postdoctoral Research Assistant, KGS.  
 Sophocleous, M. A.—KGS Promotion and Review Committee.  
 Sophocleous, M. A.—Geohydrology Seminar Coordinator.  
 Watney, W. L.—2012, Review Committee: Kansas Transfer of Wealth 2012 Report by Center for Economic Development and Business Research, W. Frank Barton School of Business, Wichita State University.  
 Watney, W. L., and Doveton, J.—2012, Overview of Mississippian and Arbuckle research seminar to industry teams as part of KICC, February 15, July 26, and November 25.  
 Whittemore, D. O.—Coordinator of KGS Analytical Laboratory.  
 Whittemore, D. O.—M.S. thesis committee, Department of Geology (Molly Long) .  
 Wilson, B. B.—Co-chair of search committee for Geohydrology's Hydrogeologist to lead the High Plains Aquifer Program and committee member for Cartographic Services' Assistant Cartographer (student position). Kansas Geological Survey.

## **External Service**

Brookfield, A. E.—Newsletter Editor, Geological Society of America Hydrogeology Division (2009–).  
 Brookfield, A. E.—Associate Editor, Ground Water (2011– ).  
 Butler, J.—Associate Editor, Ground Water (2002–present).  
 Butler, J.—Co-Chair, 2012 NGWA Ground Water Summit, National Ground Water Association.  
 Butler, J.—Special Session Convener, 2012 NGWA Ground Water Summit, National Ground Water Association.  
 Butler, J.—Member, Kansas Water Resources Institute Administrative Council.  
 Butler, J.—Member, Organizing Committee, NovCare 2013 (Novel Methods for Subsurface Characterization and Monitoring: From Theory to Practice).  
 Butler, J.—Chair, Awards Committee, Scientists and Engineers Division, National Ground Water Association.  
 Butler, J.—Member, Erin Haacker doctoral dissertation committee, Dept. of Geological Sciences, Michigan State University (2012–).  
 Butler, J. J., Jr.—Workshop Instructor:
 

- Site Characterization—The Slug Test and Beyond, Empresa Nacional de Residuos Radiactivos, Madrid, Spain, Dec. 27, 2012.
- Hydraulic Testing for Aquifer Characterization: Getting the Information Modelers Need, Universitat Politècnica de València, València, Spain, Dec. 10-13, 2012.

 Dunham, J. W.—Represented KGS at the annual USGS-AASG Digital Mapping Techniques (DMT) conferences listed below:  
 2011: Williamsburg, VA, Virginia Division of Geology and Mineral Resources, College of William & Mary, May 22–25.  
 2012: Champaign, IL, Illinois State Geological Survey, University of Illinois, May 20–23.

Dunham, J. W.—Member of USGS-AASG Digital Mapping Techniques (DMT) group working on development of Esri FGDC style and cartographic representation files.

Franseen, E. K.—President-Elect—SEPM (Society of Sedimentary Research).

Franseen, E. K.—Chair—SEPM Shepard Medal Award Committee.

Franseen, E. K.—Chair—SEPM Ethics Violations Committee.

Franseen, E. K.—Chair—SEPM Sedimentary Record Editor Search Committee.

Franseen, E. K.—Member—SEPM Student Research Grant Evaluation Committee.

Franseen, E. K.—SEPM Councilor of Sedimentology.

Franseen, E. K.—Member—SEPM Council.

Franseen, E. K.—Chair—SEPM Pettijohn Medal Award Committee.

Franseen, E. K.—Chair—SEPM Journal of Sedimentary Research Outstanding Paper Award Committee.

Franseen, E. K.—Member—SEPM Foundation Board.

Franseen, E. K.—Member—NSF Carbonate Focused Research Group, Community Modeling.

Ludvigson, G. A.—Associate Editor for the Journal of Sedimentary Research for SEPM, The Society for Sedimentary Geology.

Ludvigson, G. A.—Representatives for the GSA Sedimentary Geology Division on the GSA Joint Technical Program Committee (for annual meeting); Two-year term began in December 2012.

Ludvigson, G. A.—Reviewed Canadian NSERC Discovery Grant Proposal (by Claudia Schroder-Adams, Carleton University, Ontario); January 2012.

Ludvigson, G. A.—Reviewed NSF proposal to Arctic Natural Sciences program (by A. Hope Jahren, University of Hawaii); January 2012.

Ludvigson, G. A.—Reviewed NSF proposal to Sedimentary Geology & Paleobiology Program (by Brian Hampton, Michigan State University); April 2012.

Ludvigson, G. A.—Coordinated peer review and made Associate Editor recommendation for paper submitted to the Journal of Sedimentary Research (by Bojanowski et al., recommended publication; paper published in August 2012); April 2012.

Ludvigson, G. A.—Coordinated peer review and made Associate Editor recommendation for paper submitted to the Journal of Sedimentary Research (by Mack et al., recommended publication; paper published in August 2012); May 2012.

Ludvigson, G. A.—Reviewed manuscript for Palaeogeography, Palaeoclimatology, Palaeoecology (by Xianghui Li, et al.; recommended moderate revision); November 2012.

Ludvigson, G. A.—Coordinated peer review and made Associate Editor recommendation for paper submitted to the Journal of Sedimentary Research (by Torres et al., recommended publication with minor revision); December 2012.

Lyle, S.A.—Member, Kansas State University Geology Advisory Committee, (2011–present).

Lyle, S.A.—Member, Kansas Next Generation Science Standards Committee, (2011–present).

Mandel, R. D.—Chair, U.S. National Committee for the International Union for Quaternary Research (INQUA), The National Academies, 2012–2016.

Mandel, R. D.—Chair, Awards Committee, Archaeological Geology Division, Geological Society of America, 2012.

Mandel, R. D.—Associate Editor, Encyclopedia of Geoarchaeology, Springer Press, 2012.

Mandel, R. D.—Associate Editor, Geoarchaeology: An International Journal, Wiley-Blackwell, 2012.

Mandel, R. D.—Co-organizer of the SERC-NSF On the Cutting Edge Workshop. Teaching Climate Change from the Geologic Record: Insights from Large Lakes, co-sponsored by the U.S. National Committee for the International Union for Quaternary Research and the American Quaternary Association, University of Minnesota-Duluth, June 19–20, 2012.

Miller, R. D.—AGU, Session Co-convener, “Developments and practical applications of the multichannel seismic-data surface-wave analysis method,” AGU Fall Meeting, San Francisco, California, December 3–7, 2012.

Miller, R. D.—SEG Board, Nov. 2012–present. SEG-EEGS Merger Task Force, Continuing Education Committee, and Inter-Society Relations Committee.

Miller, R. D.—SEG Executive Committee, 2011–Nov. 2012. Liaison to Committee on University & Student Programs, Continuing Education Committee, Online Committee, Mining and Geothermal Committee, Near-Surface Task Force, Inter-Society Collaboration Committee, and the AGI Environmental Geoscience Advisory Committee.

Miller, R. D.—SEG, President’s Page, *The Leading Edge*: July 2012 (v. 31, n. 7); January 2012 (v. 31, n. 1).

Miller, R. D.—SEG, Special Issue Editor, *The Leading Edge*: August 2012 (v. 31, n. 8), archaeology; February 2011 (v. 30, n. 2) near-surface geophysics.

Miller, R. D.—SEG Near-Surface Geophysics Section Publications Committee, Chairman, 2008-present.

Miller, R. D.—National Advisory Team for Geophysics in Hydrology, organized by the Consortium of Universities for the Advancement of Hydrologic Sciences Inc., 2006-present.

Miller, R. D.—ASTM Geophysics Subcommittee on Seismic Standards, 2006-present.

Miller, R. D.—Geophysical Society of Kansas, Editor, 2005-present.

Miller, R. D.—Referee for SEG annual meeting abstracts, 2012

Miller, R. D.—Referee for EAGE annual meeting expanded abstracts, 2012

Platt, B. F.—Reviewer for Journal of Sedimentary Research—one manuscript.

Sawin, R. S.—Member, Kansas State University Geology Advisory Council (1995–present).

Sawin, R. S.—Member, Reservoir Siting Technical Advisory Committee, Kansas Water Office.

Sophocleous, M.A.—Editorial Advisory Board, Computers & Geosciences.

Sophocleous, M.A.—Editorial Advisory Board, Natural Resources Research.

Sophocleous, M.A.—Associate Editor-in-Chief, Journal of Arid Land.

Sophocleous, M.A.—Advisor to the Editor-in-Chief, Ground Water.

Sophocleous, M.A.—Co-chair of Session M3-F: Groundwater Sustainability II (with Prof. Kevin Hiscock of UK) at the 39<sup>th</sup> International Association of Hydrogeologists (IAH) Congress, Niagara Falls, Canada, Sept. 17, 2012.

Sophocleous, M. A.—KGS representative for Kansas Watershed Restoration and Protection Strategy (WRAPS) Work Group .

Sophocleous, M. A.—KGS representative for Wetland Program Plan for Kansas.

Sophocleous, M. A.—Kansas Agencies service reviews:

- C&D Landfill in City of Wichita, KS (March 1, 2012).
- City of Salina, KS Public Water Supply (June 5, 1012).
- Butler County Landfill expansion (June 13, 2012).
- Chase Co. Public Wholesale Water Supply District #26 (June 21, 2012).
- City of Leoti, Wichita Co., Public Drinking Water System (July 3, 2012).
- Infill Recycling and Disposal, Atchison, KS (July 17, 2012).
- City of Smith Center, KS, Water System Improvements (Aug. 5, 2012).
- City of Argonia, KS, Water System Improvements (Aug. 28, 2012).
- City of Woodston, KS, Sewer System (Sept. 25, 2012).
- Tarkio CD Landfill, Riley Co (Sept. 26, 2012).
- City of Russell, Public Water Supply (Oct. 10, 2012).
- City of Minneola, Public Water Supply (Dec. 5, 2012).

Sophocleous, M. A.—Reviewer for NSF Hydrological Sciences.

Sophocleous, M. A.—Reviewer for Estonian Research Council.

Sophocleous, M. A.—Reviewer for Oklahoma Water Resources Research Institute.

Sophocleous, M. A.—Reviewer for Journal of Hydrology.

Sophocleous, M. A.—Reviewer for Water Resources Research.

Sophocleous, M. A.—Reviewer for Hydrological Sciences Journal.

Sophocleous, M. A.—Reviewer for Ground Water.

Sophocleous, M. A.—Reviewer for EOS Transactions.

Sophocleous, M. A.—Reviewer for Computers & Geosciences.

Sophocleous, M. A.—Reviewer for Journal of Arid Land.

Sophocleous, M. A.—Reviewer for Natural Resources Research.

Sophocleous, M. A.—Reviewer for Hydrology and Earth System Science (HESS).

Sophocleous, M. A.—Reviewer for Proceedings of the National Academy of Science (PNAS).

Suchy, D. R.— Member, Board of Directors, Rural Water District #5, Douglas County, Kansas (March 2007–present); Vice Chairman (March 2008–present).

Suchy, D. R.— Alternate Board Member or Board Member (October 2007–present) and Treasurer (2012–2013), Public Wholesale Water Supply District #25.

Suchy, D. R.—KGS contact for Kansas Division of Emergency Management’s Kansas Response Plan (2007–present).

Suchy, D. R.—Senator, KU Unclassified Professional Staff Senate (May 2012–present).

Watney, W. L.—2012, Organizing Committee member, 2013 Mid-Continent AAPG Sectional Meeting, Wichita.



- Watney, W. L.—2012, Advising students as thesis committee member: Christa Jackson, Luis Montavo, Jennifer Raney, Aimee Scheffer, Robin Barker (KSU), Derek Robert (KSU), Randi Jo Lee (KSU).  
 M.S. Theses:  
 —Aimee Scheffer, 2012, Geochemical and microbiological characterization of the Arbuckle Saline Aquifer, a potential CO<sub>2</sub> storage reservoir; Implications for hydraulic separation and caprock integrity.  
 —Ayrat Sirazhiev, 2012, Seismic attribute analysis of the Mississippian chert at the Wellington Field, south-central Kansas: M.S. Thesis, Department of Geology, The University of Kansas..  
 —Ohl, Derek Robert, 2012, Rock formation characterization for carbon dioxide geosequestration: 3D seismic amplitude and coherency anomalies, and seismic petrophysical facies classification, Wellington and Anson-Bates fields, Sumner County, Kansas, USA, M.S. Thesis, Department of Geology, Kansas State University, 77 p.  
 —Randi Jo Lee, 2012, Integration of in situ and laboratory velocity measurements: Analysis and calibration for rock formation characterization Isham, M.S. Thesis, Department of Geology, Kansas State University.
- Whittemore, D. O.—Council Member, Kansas Academy of Science.
- Whittemore, D. O.—Geochemical identification of saltwater sources for Kansas Corporation Commission in four Kansas counties.
- Wilson, B. B., and Woods, J. J.—Developed maps and graphs showing trends in the water resource conditions and reported use for the Western Kansas GMD#1 in support of county-based Local Enhanced Management Area meetings.

## **KGS Web Site Additions**

- Placed online:
  - 12 bulletins and books (most from the Ground Water series and Chemical Quality series)
  - One new and one revised Public Information Circular
  - 31 open-file reports from 2012 and previous years
  - 43,000 wireline logs
  - 19,000 other oil and gas documents
- Scanned 27,000 water well records since mid-2011
- Fross, D., Sophocleous, M. A., Wilson, B. B., and Butler, J. J., Jr., 2012, Kansas High Plains Aquifer Atlas ([www.kgs.ku.edu/HighPlains/HPA\\_Atlas/index.html](http://www.kgs.ku.edu/HighPlains/HPA_Atlas/index.html)), Kansas Geological Survey.
- Wilson, B. B., Adkins-Heljeson, D., Moore, M., and Wood, J. J., The Kansas Master Well Inventory project completed initial well matching across the state. The inventory contains more than 294,000 unique well sites that were matched and are linked to more than 357,000 well records maintained by individual state water agencies. The master well inventory was incorporated in the KGS database web sites in May 2012.

## Refereed Publications

- Beeton, J. M., and Mandel, R. D., 2011, Soils and late-Quaternary landscape evolution in the Cottonwood River basin, east-central Kansas: Implications for archaeological research: *Geoarchaeology: An International Journal*, v. 26, p. 693-723.
- Bianchi, M., Zheng, C., Wilson, C., Tick, G. R., Liu, G., and Gorelick, S. M., 2011, Spatial connectivity in a highly heterogeneous aquifer: From cores to preferential flow paths, *Water Resources Research*, 47, W05524, doi: 10.1029/2009WR008966.
- Butler, J. J., Jr., Jin, W., Mohammed, G. A., and Reboulet, E. C., 2011, New insights from well responses to fluctuations in barometric pressure: *Ground Water*, v. 49, no. 4, pp. 525-533.
- Cordova, C. E., Johnson, W. C., Mandel, R. D., and Palmer, M. W., 2011, Late Quaternary environmental change inferred from phytoliths and other soil-related proxies: Case studies from the central and southern Great Plains, USA: *Catena*, v. 85, p. 87-108.
- Goldstein, R. H., Li, Z., and Franseen, E. K., 2011, Diagenetic controls on character of carbonate reservoirs: Surfaces and setting: *in Carbonate Geochemistry: Reactions and Processes in Aquifers and Reservoirs*, Karst Waters Institute Special Publication 16, p. 31-34.
- Holliday, V. T., Meltzer, D. J., and Mandel, R. D., 2011, Stratigraphy of the Younger Dryas chronozone and paleoenvironmental implications: Central and southern Great Plains: *Quaternary International*, v. 242, p. 520-533.
- Ivanov, J., Miller, R. D., Peterie, S. L., Zeng, C., Xia, J., and Schwenk, T., 2011, Multi-channel analysis of surface waves (MASW) of models with high shear-wave velocity contrast [Exp. Abs.]: Annual Meeting of the Society of Exploration Geophysicists, San Antonio, Texas, September 18-23, p. 1384-1390.
- Leitner, B., Miller, R. D., and Ivanov, J., 2011, Optimal spread design for passive MASW [Ext. Abs.]: 17th European Meeting of Environmental and Engineering Geophysics, Association of Geoscientists and Engineers (EAGE), Leicester, United Kingdom, September 12-14, 4 p.
- Luo, Y., and Sophocleous, M., 2011, Two-way coupling of unsaturated-saturated flow by integrating the SWAT and MODFLOW models with application in an irrigation district in arid region of West China: *Journal of Arid Land*, v. 3, no. 3, p. 164-173.
- McCauley, J. R., 2011, Surficial geology of Saline County, Kansas; text and geologic-unit descriptions by C. M. Phillips-Lander and R. S. Sawin; cross section geology by R. S. Sawin: Kansas Geological Survey, Map M-123, 1 sheet, 59 x 40 inches, scale 1:50,000.
- Miller, R. D., and Baker, G., 2011, Introduction to this special section—Near-surface geophysics: *Leading Edge*, v. 30, no. 2, p. 138-139.
- Miller, R. D., Black, W., Miele, M., Morgan, T., Ivanov, J., Xia, J., and Peterie, S. L., 2011, Feasibility of high resolution seismic reflection to improve accuracy of hydrologic models in a culturally noisy part of Ventura County, CA [Exp. Abs.]: Annual Meeting of the Soc. of Exploration Geophysicists, San Antonio, Texas, September 18-23, p. 3,722-3,726.
- Mintz, J. S., Driese, S. G., Breecker, D. O., and Ludvigson, G. A., 2011, Influence of changing hydrology on pedogenic calcite precipitation in vertisols, Dance Bayou, Brazoria County, Texas, U.S.A.—Implications for estimating paleoatmospheric pCO<sub>2</sub>: *Journal of Sedimentary Research*, v. 81, p. 394-400.
- Park, Y.-J., Sudicky, E. A., Brookfield, A. E., and Jones, J. P., 2011, Hydrologic response of catchments to precipitation—Quantification of mechanical carriers and origins of water: *Water Resources Research* v. 47.
- Rickards, B. T., Steeples, D., Miller, R. D., Ivanov, J., Peterie, S. L., Sloan, S. D., and McKenna, J. R., 2011, Near-surface shear-wave velocity measurements in unlithified sediment [Exp. Abs.]: Annual Meeting of the Society of Exploration Geophysicists, San Antonio, Texas, September 18-23, p. 1,416-1,420.
- Sloan, S. D., McKenna, J. R., Broadfoot, S. W., Metheny, O. M., Miller, R. D., Peterie, S. L., Ivanov, J., and Wakeley, L. D., 2011, Active seismic imaging at San Luis, Arizona, in support of tunnel detection: U.S. Army Corps of Engineers Engineer Research and Development Center Report ERDC TR-11-7, 49 p.
- Smith, J. J., Platt, B. F., Ludvigson, G. A., and Thomasson, J. R., 2011, Ant-nest ichnofossils in honeycomb calcretes, Neogene Ogallala Formation, High Plains region of western Kansas, U.S.A.: *Palaeogeography, Palaeoclimatology, Palaeoecology*, v. 308, p. 383-394.

- Sophocleous, M. A., 2011, Ground-water legal framework and management practices in the High Plains aquifer, USA; *in*, Groundwater Management Practices, A. N. Findikakis and K. Sato, eds.: IAHR Monograph, CRC Press, p. 325–366.
- Suarez, M. B., González, L. A., and Ludvigson, G. A., 2011, Quantification of a greenhouse hydrologic cycle from equatorial to polar latitudes—The mid-Cretaceous water bearer revisited: *Palaeogeography, Palaeoclimatology, Palaeoecology*, v. 307, p. 301–312.
- Xia, J., Xu, Y., Luo, Y., Miller, R. D., Cakir, R., and Zeng, C., in press, Advantages of using multichannel analysis of Love waves (MALW) to estimate near-surface shear-wave velocity: *Survey in Geophysics*.
- Zeng, C., Xia, J., Miller, R. D., and Tsoflias, G. P., in press, An improved vacuum formulation for 2D finite-difference modeling of Rayleigh waves including surface topography and internal discontinuities: *Geophysics*.
- Zeng, C., Xia, J., Miller, R. D., and Tsoflias, G. P., 2011, Application of the multiaxial perfectly matched layer (M-PML) to near-surface seismic modeling with Rayleigh waves: *Geophysics*, v. 76, no. 3, p. T43–T52.
- Zeng, C., Xia, J., Miller, R. D., and Tsoflias, G. P., 2011, Feasibility of waveform inversion of Rayleigh waves for shallow shear-wave velocity using a genetic algorithm: *Journal of Applied Geophysics*, v. 75, p. 648–655.

### **Nonrefereed/Unpublished Papers**

- Brady, L. L., Newell, K. D., and Recoy, K., 2011, Field trip of the 34th forum of the coal geologists of the western interior coal region, Pittsburg, Kansas: Kansas Geological Survey, Open-file Report 2011-6, 59 p.
- Evans, C. S., 2011, Geothermal energy and heat pump potential in Kansas: Kansas Geological Survey, Public Information Circular 31, 6 p.
- Lyle, S. A., 2011, Tomographic characterization of aquifer heterogeneity with a sinusoidal signal, Kansas Geological Survey, Open-file Report 2011-1.
- Lyle, S. A., Evans, C. S., Buchanan, R. C., and Sawin, R. S., eds., 2011, Topeka, Lawrence, and Kansas City—Water as infrastructure; population growth; and sustainability, 2011 Kansas Field Conference, field guide: Kansas Geological Survey, Open-file Report 2011-8, 100 p.
- Lyle, S. A., and McElwee, C. D., 2011, Tomographic characterization of aquifer heterogeneity with a sinusoidal signal (poster): American Geophysical Union, Fall Meeting, Dec. 5–9, 2011, San Francisco, California.
- Mandel, R., and Newell, K. D., 2011, Preliminary field geology maps, McPherson County, Kansas: Buhler, Halstead NW, Hutchinson NW, Windom NW 1:24,000-scale quadrangles: Kansas Geological Survey, Open-File Report 2008-36, supplement.
- McElwee, C. D., Engard, B. R., Wachter, B. J., Lyle, S. A., Healey, J., Devlin, J. F., 2011, Hydraulic tomography and high-resolution slug testing to determine hydraulic conductivity distributions—Final report, KGS Open-file Report 2011-2.
- Merriam, D. F., Brady, L. L., and Newell, K. D., 2011, Kansas energy resources, a geological review: Natural Resources Research.
- Merriam, D. F., and Newell, K. D., 2011, The first oil well in Kansas in 1860: *Transactions of the Kansas Academy of Science*, v. 114, no. 304, p. 245–248.
- Sawin, R. S., and West, R. R., 2011, Field geology maps, Morris County, Kansas; preliminary field geology maps for Burdick, Diamond Springs, and Lost Springs 1:24,000-scale quadrangles: Kansas Geological Survey, Open-file Report 2011-9, 35 p., 1 sheet.
- Smith, J. J., and Johnson, W. C., 2011, Field geology map, Haskell County, Kansas (Copeland NW USGS 7.5-minute quadrangle): Kansas Geological Survey, Open-file Report 2011-13, 1 sheet, scale 1:24,000.
- Smith, J. J., and Sleezer, R., 2011, Field geology maps, Harvey County, Kansas (Halstead NW, Burrton, Patterson, and Bentley USGS 7.5-minute quadrangles): Kansas Geological Survey, Open-file Report 2011-11, 4 sheets, scale 1:24,000.
- Sophocleous, M. A., 2011, Water resources sustainability and how it is implemented in the State of Kansas, USA: National Workshop for Development of the Philippine Hydrological Gap Plan, IAEA Water Availability Enhancement (WAVE) Project, March 2–4, 2011, Manila, Philippines. Available at [http://www-naweb.iaea.org/naweb/ih/IHS\\_projects\\_iwave\\_workshop\\_philippines.html](http://www-naweb.iaea.org/naweb/ih/IHS_projects_iwave_workshop_philippines.html).
- Stotler, R., Butler, J. J., Jr., Whittemore, D. O., Reboulet, E., Buddemeier, R. W., Bohling, G. C., and Wilson, B. B., 2011, High Plains aquifer calibration monitoring well program: 2011 mid-year progress report: Kansas Geological Survey report to Kansas Water Office, 48 p.
- Suchy, D. R., and Newell, K. D., 2011, Hydraulic fracturing of oil and gas wells in Kansas: Kansas Geological Survey, Public Information Circular 32, 6 p.

- Whittemore, D. O., Bohling, G. C., Woods, J. J., Dealy, M. T., and Wilson, B. B., 2011, Spatial and statistical evaluation of water-chemistry data in Equus Beds Groundwater Management District No. 2: Report for Equus Beds Groundwater Management District No. 2, 122 p.
- Wilson, B. B., 2011, Assisted with writing the final reports and the development of future scenario runs of the Kansas Groundwater Management District No. 3 Numerical Model with Gaisheng, Don Whittemore, and Jim Butler.
- Wilson, B. B., 2011, Assisted the Kansas Water Office in updating the 2010 Kansas Water Plan's High Plains Aquifer High Priority Areas map.

## **Computer Software**

- Bohling, G. C., Jin, W., and Butler, J. J., Jr., 2011, Kansas Geological Survey Barometric Response Function Software (user's manual): Kansas Geological Survey, Open-file Report 2011-10 ([http://www.kgs.ku.edu/HighPlains/OHP/index\\_program/brf.html](http://www.kgs.ku.edu/HighPlains/OHP/index_program/brf.html)).
- Victorine, J. R., 2011, KIMELEON Web Site (<http://www.kgs.ku.edu/stratigraphic/KIMELEON/>).
- Victorine, J. R., 2011, Zone Kluster ("Zeke") Depth Constrained Cluster Analysis Web Site (<http://www.kgs.ku.edu/stratigraphic/ZONATION/>).
- Victorine, J. R., 2011, Profile (Expanded LAS File Viewer) Web Site (<http://www.kgs.ku.edu/stratigraphic/PROFILE/>).
- Victorine, J. R., 2011, Cross Section Web Site ([http://www.kgs.ku.edu/stratigraphic/CROSS\\_SECTION/](http://www.kgs.ku.edu/stratigraphic/CROSS_SECTION/)).
- Victorine, J. R., 2011, Cross Plot ("XPlot") Web Site (<http://www.kgs.ku.edu/stratigraphic/XPLOT/>).
- Victorine, J. R., 2011, 3D Cross plot ("3DPlot") Web Site (<http://www.kgs.ku.edu/stratigraphic/3DPLOT/>).
- Wilson, B. B., 2011, Continued work on the Master Well Inventory (year 4 of 4).
- Wilson, B. B., 2011, Customized software development for the Equus Beds GMD No. 2 that allows automated safe-yield computations.

## **Abstracts**

- Bohling, G. C., Liu, G., Knobbe, S. J., Reboulet, E. C., and Butler, J. J., Jr., 2011, A modified approach for direct-push hydraulic profiling in formations of moderate to high hydraulic conductivity, Abstract H31D-1189 presented at 2011 Fall Meeting, AGU, San Francisco, Dec. 7, 2011.
- Boss, S. K., Kvamme, J. A., Suarez, C. A., Platt, B. F., Ludvigson, G. A., and Suarez, M. B., 2011, Salvage survey of an early Cretaceous dinosaur trackway site in Arkansas: Geological Society of America, Abstracts with Programs, v. 43, no. 5, p. 264.
- Brookfield, A. E., 2011, Pairing temperature data with fully integrated hydrologic models to provide insight into ground-water-surface-water interactions: Geological Society of America, Abstracts with Programs, 2011 Annual Meeting, Minneapolis, Minnesota, October 9-12.
- Brookfield, A., Liu, G., and Sophocleous, M. A., 2011, Simulating the effects of a changing climate on water resources in Kansas. Water and the Future of Kansas Conference Proceeding, Topeka, Kansas, Sept. 30, 2011.
- Bunn, A., Wellman, D., Deeb, R. A., Hawley, E. L., Eddy-Dilek, C., Freshley, M., Gilmore, T., Miracle, A., Truex, M., Kaback, D., McCord, J., Miller, R., Peterson, M., Pierce, E., Rossabi, J., Young, M., Bush, R., Beam, P., Chamberlain, G., Gerdes, and Collazo, Y. T., 2011, Scientific opportunities for monitoring of environmental remediation sites (SOMERS) [abs.]: Waste Management Conference, Phoenix, Arizona, Feb. 26-March 1, 2012.
- Butler, J. J., Jr., Stotler, R., Whittemore, D., and Reboulet, E.C., 2011, Interpretation of water-well hydrographs: New insights from an old "tool," Abstract H33J-01 presented at 2011 Fall Meeting, AGU, San Francisco, Dec. 7, 2011.
- Butler, J. J., Jr., Stotler, R. L., Whittemore, D. O. and Reboulet, E., 2011, Interpretation of well hydrographs from the index well sites in the High Plains aquifer in Western Kansas, Proceedings 28<sup>th</sup> Annual Water and Future of Kansas Conference, Topeka, Kansas.
- Dogan, M., Meerschaert, M. M., Benson, D. A., Hyndman, D. W., Van Dam, R. L., Butler, J. J., Jr., and Bohling, G. C., 2011, 3D conditional fractal simulation of hydraulic conductivity at the MADE site, Abstract H33J-03 presented at 2011 Fall Meeting, AGU, San Francisco, Dec. 7, 2011.

- Dogan, M., Meerschaert, M. M., Benson, D. A., Hyndman, D. W., Van Dam, R. L., Butler, J. J., Jr., and Bohling, G. C., 2011, Comparison of 2D conditional and unconditional fractal simulations of highly heterogeneous hydraulic conductivity fields, Paper No. 85-7, GSA Annual Meeting, Minneapolis, Minnesota, 2011.
- Hasiotis, S. T., Hirmas, D. R., Platt, B. F., and Reynolds, J., 2011, New frontiers in ichnology using MLT (multistripe laser triangulation) and rapid prototyping technology for three-dimensional analysis, printing, and sharing of modern and ancient traces with other ichnophiles: Geological Society of America Abstracts with Programs, v. 43, no. 1.
- Hendrix, C., and Miller, R.D., 2011, Analysis of the IVI Minivib performance for high frequency reflection data (Poster) [Abs]: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2012), Tucson, Arizona, March 25-29, 2012.
- Hirmas, D. R., Platt, B. F., and Hasiotis, S. T., 2011, Determination of calcite and dolomite content in soils and paleosols by continuous coulometric titration. Paper 68440. Abstracts, 2011 International Annual Meeting, ASA-CSSA-SSSA. ASA, Madison, WI. [CD-ROM].
- Ivanov, J., Miller, R. D., and Peterie, S. L., 2011, Blind test of methods for obtaining velocity models from first-arrival travel times using refraction tomography methods: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2011), Charleston, South Carolina, April 10-14, 2011, p. 12.
- Ivanov, J., Miller, R. D., Schwenk, J. T., and Peterie, S. L., 2011, Obtaining velocity models from synthetic first-arrival travel times using refraction tomography methods [abs.]: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2012), Tucson, Arizona, March 25–29, 2012.
- Knoph, K. M., Franseen, E. K., Goldstein, R. H., Tsoflias, G. P., and Li, Z., 2011, GPR constraints on 3-D stratigraphic architecture and porosity in microbialite-oolite sequences, Upper Miocene, SE Spain: AAPG 2011 Annual Convention and Exhibition Abstracts Volume, p. 102.
- Liu, G., Knobbe, S., Butler, J. J., Jr., and Reboulet, E. C., 2011, A new thermal method for high-resolution aquifer characterization, Abstract H31D-1188 presented at 2011 Fall Meeting, AGU, San Francisco, Dec. 7, 2011.
- Ludvigson, G. A., Joeckel, R. M., González, L. A., Kirkland, J. I., Murphy, L., and Suarez, C., 2011, Exploring the paleoclimatic record of the terrestrial Aptian–Albian carbon isotope excursions in the Early Cretaceous Cedar Mountain Formation of eastern Utah: Geological Society of America, Abstracts with Programs, v. 43, no. 4, p. 15.
- Ludvigson, G. A., Murphy, L. R., González, L. A., and Joeckel, R. M., 2011, Early Cretaceous pCO<sub>2</sub> changes estimated from a calcrete succession in the North American foreland basin, Utah, USA: American Geophysical Union, Fall Meeting Program, PP11A-1770.
- Lynott, M. J., Mandel, R. D., Brown, J. A., and Ruby, B., 2011, New evidence relating to the construction of Mound #7, Mound City Group, Chillicothe, Ohio. Presented at the 57<sup>th</sup> Annual Meeting of the Midwest Archeological Conference, La Crosse, Wisconsin, October 2011.
- Mandel, R. D., 2011, Characteristics of buried alluvial paleosols dating to the Pleistocene-Holocene transition in semi-arid western Kansas. Presented at the annual meeting of the Soil Science Society of America, San Antonio, Texas, October 2011.
- Mandel, R. D., and Murphy, L. R., 2011, Geoarchaeology and paleoenvironmental context of the paleoindian cultural deposits at the Beacon Island Site (32MN234), Northwest North Dakota. Presented at the annual meeting of the Geological Society of America, Minneapolis, Minnesota, October 2011.
- Matanga, G., Brookfield, A., Sudicky, E., Therrien, R. and DeMarco, D., 2011, Challenges of evaluation of water supply, water quality, and ecosystem-health issues in fully integrated surface/subsurface framework: ASCE/EWRI World Environmental & Water Resources Congress, Palm Springs, California, May 22–26.
- Miller, R. D., Black, W., Miele, M., Morgan, T., Ivanov, J., Xia, J., and Peterie, S. L., 2011, Feasibility of high resolution seismic reflection to improve accuracy of hydrologic models in a culturally noisy part of Ventura County, CA [Exp. Abs.]: Annual Meeting of the Soc. of Expl. Geophys., San Antonio, Texas, September 18-23, p. 3722-3726.
- Miller, R. D., Markiewicz, R. D., Bailey, B., Schwarzer, J. C., Peterie, S. L., Ivanov, J., Pierce, K. S., and Hendrix, C., 2011, Full wavefield seismic analysis beneath A. V. Watkins Dam, Utah [abs.]: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2012), Tucson, Arizona, March 25-29, 2012.
- Murphy, L. R., Ludvigson, G. A., Joeckel, R. M., and González, L. A., 2011, Early Cretaceous baseline atmospheric pCO<sub>2</sub> and buildup estimated from a calcrete succession, Cedar Mountain Formation, Utah, USA: Geological Society of America, Abstracts with Programs, v. 43, no. 5, p. 617.
- Ortega-Ariza, D., and Franseen, E. K., 2011, Evaluating controls on carbonate sequence development: Middle to

- Late Miocene Ponce Limestone, Puerto Rico, Poster at the ExxonMobil Student Scientist Technology Conference, Houston, Texas, 2011.
- Ortega-Ariza, D., and Franseen, E. K., 2011, Sequence stratigraphy and quantitative relative sea-level history for Miocene-Pliocene Ponce Limestone, Puerto Rico: 2011 SACNAS National Conference, October 2011, San Jose, California.
- Ortega-Ariza, D., and Franseen, E. K., 2011, The utility of *Kuphus incrassatus* bivalves for determining absolute ages and shallow water marine environments in Tertiary carbonate and siliciclastic systems in the Caribbean; GSA Annual Meeting 2011 Abstracts with Programs v. 43, no. 5.
- Ortega-Ariza, D., and Franseen, E. K., 2011, Evaluating controls on carbonate sequence development: Middle to Late Miocene Ponce Limestone, Puerto Rico: AAPG 2011 Annual Convention and Exhibition Abstracts Volume, p. 135.
- Ortega-Ariza, D., Franseen, E. K., Ramirez, W., and Santos, H., 2011, Sequence stratigraphy and quantitative relative sea-level history for Miocene-Pliocene Yaque Group, Dominican Republic: VII Congreso Internacional Interdisciplinario de Investigacion Cientifica (VIICIC).
- Platt, B. F., and Hasiotis, S. T., 2011, Network analyses of the dinosaur-dominated ecosystem of the Upper Jurassic Morrison Formation, Western Interior North America: Geological Society of America Abstracts with Programs v. 43, no. 5.
- Rajaram, H., Solis, J. A., Whittemore, D. O., Butler, J. J., Jr., Reboulet, E., Knobbe, S., and Dealy, M., 2011, A long-term reach-scale monitoring network for riparian evapotranspiration, Rock Creek, Kansas, Abstract H31K-02 presented at 2011 Fall Meeting, AGU, San Francisco, Dec. 7, 2011.
- Schwenk, J. T., Miller, R. D., Ivanov, J., Sloan, S. D., and McKenna, J. R., 2011, Joint use of MASW and refraction traveltime tomography [abs.]: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2012), Tucson, Arizona, March 25–29, 2012.
- Smith, J. J., Hasiotis, S. T., Kraus, M. J., and Woody, D. T., 2011, Ichnologic and paleopedologic trends during an abrupt global-warming event—Paleocene–Eocene Thermal Maximum interval, Willwood Formation, Bighorn Basin, Wyoming: TerQua Conference, Tate Geological Museum, Casper College, Wyoming, Program with Abstracts, p. 14.
- Smith, J. J., Platt, B. F., Retrum, J. B., and Hasiotis, S. T., 2011, Neoichnology of extant earthworm (Annelida: Oligochaeta) casts to estimate *Edaphichnium lumbricatum* tracemaker body sizes: Geological Society of America, Abstracts with Programs, v. 43, no. 5, p. 380.
- Sophocleous, M. A., 2011, The evolution of groundwater management paradigms in Kansas, USA: AGU Fall Meeting 2011 Proceedings, session H11F. The Evolution of Water Management Paradigms I Posters, December 5, 2011, San Francisco, California.
- Sophocleous, M.A., 2011. The evolution of groundwater management practices in the Kansas High Plains aquifer towards sustainability. Water and the Future of Kansas Conference Proceeding, September 30, 2011, Topeka, Kansas.
- Stotler, R. L. Butler, J. J., Jr., Comba, S., Buddemeier, R. W., Reboulet, E. C., Whittemore, D. O., and Wilson, B. B., 2011, Improving water availability assessments in the High Plains aquifer in Kansas: National Ground Water Association, Ground Water Summit, Baltimore, Maryland.
- Stotler, R. L., Butler, J. J., Jr., and Reboulet, E., 2011, Revisiting the hydrograph in large, over-developed aquifer—New insights on water availability in the High Plains aquifer from easily collected data (abstract), Paper No. 85-2, GSA Annual Meeting, Minneapolis, Minnesota, 2011.
- Suarez, C. A., Ludvigson, G. A., González, L. A., Fiorillo, A. R., McCarthy, P. J., Lollar, J. C., and Flaig, P., 2011, Investigations of Late Cretaceous arctic paleohydrology by integration of terrestrial stable isotope proxies: Geological Society of America, Abstracts with Programs, v. 43, no. 5, p. 163.
- Sweeney, R., Goldstein, R. H., and Franseen, E. K., 2011, Facies distribution and morphologies of Miocene carbonate platform deposits: The role of paleotopography, La Rellana Platform, Southeastern Spain: AAPG 2011 Annual Convention and Exhibition Abstracts Volume, p. 176.
- Villarreal, M. A., Ludvigson, G. A., Fowle, D. A., and González, L. A., 2011, Actualistic calibration of the pedogenic siderite paleoclimate proxy: Society for the Advancement of Chicanos and Native Americans in Science, National Conference Abstracts v. 8, p. 335.
- Villarreal, M. A., Ludvigson, G. A., Fowle, D. A., González, L. A., Roberts, J. A., Smith, J. J., Driese, S. G., and McKay, L. D., 2011, Actualistic calibration of the pedogenic siderite proxy: Geological Society of America, Abstracts with Programs, v. 43, no. 5, p. 618.
- Watney, W. L., Bhattacharya, S., Doveton, J., Newell, D., Rush, J., Victorine, J., Xia, J., Wreath, Koudele, R., Lamb, W., Roberts, J., Scheffer, A., Hansen, T., Nicholson, L., Gerlach, P., Smith, A., Barker, R., Datta, S.,

- Raef, A., Hedke, D., Nissen, S., Koger, D., Baker, R., Lorenz, J., and Cooper, S., 2011, Wellington field, Sumner County, Kansas, as a calibration site for CO<sub>2</sub>-EOR in Mississippian chert reservoir and deep saline aquifer CO<sub>2</sub> sequestration (abs.): Proceedings of the Midcontinent Section of the American Association of Petroleum Geologists, Oklahoma City, Oklahoma.
- Watney, W. L., Bhattacharya, S., Rush J., Doveton, J., Newell, D., Rush, J., DeGood, A., and Davis, D., 2011, Contacting new reservoir in Hunton Dolomite in nearly depleted Unger field, Marion County, Kansas, using a lateral with azimuthal gamma ray sensor and drillpipe conveyed wireline logs (abs.): Proceedings of the Midcontinent Section of the American Association of Petroleum Geologists, Oklahoma City, Oklahoma.
- Whittemore, D. O., 2011, Uranium in the Upper Arkansas River and impact on the Ogallala-High Plains aquifer: Proceedings 28<sup>th</sup> Annual Water and Future of Kansas Conference, Topeka, Kansas.
- Whittemore, D. O., 2011, Migration of a nearly 80-year-old saltwater plume in the High Plains aquifer, Kansas: Geological Society of America Abstracts with Programs, v. 43, no. 5, p. 111.
- Whittemore, D. O., Butler, J. J., Jr., Reboulet, E., Knobbe, S., Solis, J. A., Rajaram, H., and Dealy, M., 2011, Water-level variations in a shallow, confined limestone aquifer in a stream valley near Wichita, Kansas (abstract), Program with Abstracts, 56<sup>th</sup> Annual Midwest Ground Water Conference, Lexington, Kentucky, p. 39.
- Xia, J., Miller, R. D., Ivanov, J., and Peterie, S. L., 2011, Estimation of near-surface quality factors by constrained inversion of Rayleigh-wave attenuation coefficients: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2011), Charleston, South Carolina, April 10-14, 2011, p. 63.
- Xia, J., Xu, Y., Luo, Y., Miller, R. D., and Cakir, R., 2011, Advantages of using multichannel analysis of Love waves (MALW) in determining near-surface shear-wave velocity [abs.]: 2011 AGU Fall Meeting, San Francisco, California, December 5–9.
- Zeng, C., Xia, J., Miller, R. D., and Tsoflias, G. P., 2011, Application of the multiaxial perfectly matched layer to near-surface seismic modeling with Rayleigh waves: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2011), Charleston, South Carolina, April 10-14, 2011, p. 62.

## **Presentations**

- Bohling, G. C., Workshop on Petrophysical Modeling and Geostatistical Reservoir Characterization, Jan. 13-14, 2011, Columbus, OH.
- Brookfield, A. E., Critically Assessing Numerical Model Results, Kansas Department of Health and Environment, Topeka, Kansas, Dec. 12, 2011.
- Brookfield, A. E., Liu, G., and Sophocleous, M., Simulating the Effects of a Changing Climate on Water Resources in Kansas. Presentation with published abstract, Water and the Future of Kansas Conference, Topeka, Kansas, Sept. 30, 2011.
- Butler, J., Presentation on the Index Well Program, 28<sup>th</sup> Annual Water and the Future of Kansas Conference, Topeka, Kansas, Sept. 30, 2011.
- Butler, J., Presentation on the Index Well Program, American Institute of Hydrology meeting, Topeka, Kansas, Nov. 18, 2011.
- Butler, J., 50-minute classroom presentation (Sept. 20, 2011) and two-hour field demonstration (Sept. 22, 2011) on slug tests for Geology 851, University of Kansas.
- Dunham, J. W., Surficial Geology of Geary County, Kansas. Map Gallery (poster) presentation, ESRI International User Conference, San Diego, California, July 11, 2011.
- Franseen, E. K., Instructor – Workshop on Evaluating Controls on Carbonate Stratigraphic Sequences: A Field-based Approach: University of Puerto Rico-Mayaguez, June 14-16, 2011.
- Franseen, E. K., Field-trip leader – Miocene Carbonate Systems, Puerto Rico, for University of Puerto Rico-Mayaguez, June 15-16, 2011.
- Franseen, E. K., Co-instructor for BHP-Billiton Oil Company geologists to Miocene-Pliocene Carbonate Complexes of SE Spain, Oct. 9-14, 2011.
- Franseen, E. K., Organized and co-led Kansas Interdisciplinary Carbonate Consortium Meeting, March 30-31, 2011.
- Franseen, E. K., and Goldstein, R. H., 2011, Build-and-Fill Sequences in Carbonate Systems: An Emerging Picture: Kansas Interdisciplinary Carbonate Consortium Annual Review Meeting, Program with Extended Abstracts, p. 83-87.

- Franseen, E. K., and Goldstein, R. H., 2011, Miocene-Pliocene Carbonate Complexes in SE Spain – An Overview of 26 Years of Research: Kansas Interdisciplinary Carbonate Consortium Annual Review Meeting, Program with Extended Abstracts, p. 88-93.
- Franseen, E. K., Lipinski, C. J., and Goldstein, R. H., 2011, Controls on High-Frequency Oolite-Microbialite-Coral Reef Sequences and 3-D Reservoir Analog Model Development: Upper Miocene, SE Spain: Kansas Interdisciplinary Carbonate Consortium Annual Review Meeting, Program with Extended Abstracts, p. 24-28.
- Goldstein, R. H., Franseen, E. K., Dvoretzky, R. A., and Sweeney, R. J., 2011, Controls on Focused-Flow and Dispersed-Flow Deepwater Reservoir Analogs: Miocene, Agua Amarga Basin, Spain: Kansas Interdisciplinary Carbonate Consortium Annual Review Meeting, Program with Extended Abstracts, p. 16-19.
- Goldstein, R. H., Franseen, E. K., Li, Z., Young, E., Csoma, A., Buijs, G., and Poteet, J., 2011, Diagenetic Controls on Reservoir Character: Surfaces and Setting: Kansas Interdisciplinary Carbonate Consortium Annual Review Meeting, Program with Extended Abstracts, p. 38-43.
- Goldstein, R. H., Li, Z., and Franseen, E. K., Diagenetic Controls on the Character of Carbonate Reservoirs: Surfaces and Settings: ExxonMobil FC<sup>2</sup> Conference, Delft, Netherlands, September 2011.
- Goldstein, R. H., Li, Z., and Franseen, E. K., 2011, Diagenetic Controls on Character of Carbonate Reservoirs: Surfaces and Setting: Karst Waters Institute Symposium on Carbon and Boundaries in Karst, July, 2011.
- Hess, A. V., Goldstein, R. H., and Franseen, E. K., 2011, Sequence Stratigraphic Stacking of Heterozoan Carbonates, Southeastern Spain: A Predictive Model Applicable to Heterozoan Reservoirs: Kansas Interdisciplinary Carbonate Consortium Annual Review Meeting, Program with Extended Abstracts, p. 94-97.
- Knoph, K., Franseen, E. K., Tsoflias, G. P., and Goldstein, R. H., 2011, Integrating Ground-Penetrating Radar and Field Relationships to Evaluate Porosity and Stratigraphic Models in Upper Miocene Microbial-Oolitic Carbonates, SE Spain: Kansas Interdisciplinary Carbonate Consortium Annual Review Meeting, Program with Extended Abstracts, p. 29-33.
- Lechtenberg, K. S., Goldstein, R. H., and Franseen, E. K., 2011, Evaluating Origin of Build-and-Fill Geometries of Pennsylvanian Carbonate Systems Exposed in the Goosenecks, Paradox Basin, Utah, USA: Kansas Interdisciplinary Carbonate Consortium Annual Review Meeting, Program with Extended Abstracts, p. 106-108.
- Li, Z., Goldstein, R. H., and Franseen, E. K., 2011 Diagenetic Controls on Porosity and Permeability in Upper Miocene Carbonate, La Molata SE Spain: ExxonMobil FC<sup>2</sup> Conference, Delft, Netherlands, September, 2011.
- Ludvigson, G. A., Paleoclimatologic Research at the Kansas Geological Survey: Haskell Indian Nations University Environmental Research Studies Institute, Kansas Geological Survey, Lawrence, Kansas, July 12, 2011.
- Lyle, S.A., 2011, Geology of the Kansas Wine Growing Regions (oral presentation); Kansas Wine Growers Association Annual Meeting, Topeka, Kansas.
- Lyle, S.A., 2011, Groundwater Information at the Kansas Geological Survey, (oral presentation); Kansas Rural Water Conference, Annual Meeting, March 29-31, 2011, Wichita, Kansas.
- Miller, R. D., Kansas Department of Transportation Geology Section Annual Meeting, 2011.
- Newell, K. D., Natural Gas In Kansas, Salina Arts Center discussion on movie "Gasland," Salina, Kansas, Jan. 23, 2011.
- Newell, K. D., Recent Developments in Kansas CBM, Western Interior Coal Geologists Meeting, Mt. Magazine, Arkansas, May 17, 2011.
- Newell, K. D., Fracturing Geology and Environmental Considerations, KU TORP/PTTC Seminar on Horizontal Drilling and Fracturing Technology Seminar, Wichita, Kansas, June 8, 2011.
- Newell, K. D., Oil and Gas in Eastern Kansas, Eastern Kansas Royalty Owners Association, Chanute, Kansas, Oct. 6, 2011.
- Newell, K. D., Is Well Fracking an Issue In Kansas? Midcontinent Petroleum Accountants Society, Wichita, Kansas, Oct. 20, 2011.
- Newell, K. D., Oil and Gas in Eastern Kansas, Linn County Farmer Bureau, Mound City, Kansas, Nov. 14, 2011.
- Newell, K. D., Is Well Fracking an Issue In Kansas? Kansas Water Office, Topeka, Kansas, Nov. 2, 2011.
- Ortega-Ariza, D. and Franseen, E. K., 2011, Evaluating Controls on Carbonate Sequence Development: Middle to Late Miocene Ponce Limestone, Puerto Rico: Kansas Interdisciplinary Carbonate Consortium Annual Review Meeting, Program with Extended Abstracts, p. 77-82.
- Sawin, R. S., Geologic Mapping in Kansas, Kansas Department of Transportation, Geology Section, Feb. 16, 2011.
- Sawin, R. S., The Permian–Carboniferous Boundary, Kansas Department of Transportation, Geology Section, Feb. 16, 2011.
- Smith, J. J., Coring the Ogallala: Scientific Drilling in the High Plains of Western Kansas to the Kansas Geological Survey Advisory Committee meeting, Great Bend, Kansas, Aug. 19, 2011.



Smith, J. J., Scientific Drilling in the High Plains of Western Kansas-FY2010 to the Kansas Geological Mapping Advisory Committee meeting, Lawrence, Kansas, July 19, 2011.

Sophocleous, M. A., 2011, The Evolution of Groundwater Management Practices in the Kansas High Plains Aquifer Towards Sustainability: Water and the Future of Kansas Conference Proceeding, Topeka, Kansas, Sept. 30, 2011.

Sweeney, R., Franseen, E. K., and Goldstein, R. H., 2011, Facies Distribution and Morphologies of Miocene Carbonate Platform Deposits: The Role of Paleotopography, La Rellana Platform, Southeastern Spain: Kansas Interdisciplinary Carbonate Consortium Annual Review Meeting, Program with Extended Abstracts, p. 98–101.

Wilson, B. B.—National Ground Water Association Virtual Conference.

Wilson, B. B.—Kansas House Committee on Agriculture and Natural Resources.

Wilson, B. B.—Kansas Legislature- Joint Committee on Energy and Environmental Policy.

Wilson, B. B.—GMD No. 1 Annual Meeting.

Wilson, B. B.—GMD No. 3 Annual Meetings.

Wilson, B. B.—Water and the Future of Kansas Conference (x2).

Wilson, B. B.—Kansas Environmental Leadership Program.

Wilson, B. B.—Governor’s Ogallala Aquifer Summit.

Wilson, B. B.—Kansas Department of Agriculture Administrative Leadership Briefing.

Wilson, B. B.—Kansas Agriculture and Rural Leadership Program.

Young, E., Goldstein, R. H., Franseen, E. K., and Watney, W. L., 2011, Controls on Reservoir Character in Carbonate-Chert Strata, Mississippian (Osagean- Meramecian), Southeast Kansas: Kansas Interdisciplinary Carbonate Consortium Annual Review Meeting, Program with Extended Abstracts, p. 113–118.

## **Awards**

Franseen, E. K.—SEPM Certificate of Recognition for Excellent Technical Presentation at National Meeting, 2011

Franseen, E. K.—Invited Honoree, Cartografía Geotemática en Republica Dominicana Symposium, Servicio Geologico Nacional de la Republica Dominicana, July 20, 2011

Mandel, R. D.—KU Center for Teaching Excellence Award, 2011.

Miller, R. D.—Elected, SEG 2nd Vice President, Executive Committee, 2011–2012

Miller, R. D.—Richard S. Ladd Standards Development Award, ASTM, 2011.

Platt, B. F.—3<sup>rd</sup> place oral presentation, University of Kansas Geology Department G-Hawker Student Symposium

Platt, B. F.—Travel grant, Geological Society of America, South Central Section

Platt, B. F.—Honorarium, University of Arizona Center for Astronomy Education, Legacy Program Teaching Excellence Workshop, Kohala Coast, Hawaii

## **Internal Service**

Bohling, G. C.—Courtesy Associate Professor, Dept. of Chemical & Petroleum Engineering, KU (Fall 2009-present).

Bohling, G. C.—Member of search committee for new hydrogeology faculty member, Dept. of Geology, KU, Spring 2011.

Brookfield, A. E.—Courtesy Faculty, KU Department of Geology

Brookfield, A. E.—Serving on dissertation committee at KU Department of Geology (Ph.D.) Rubina Firdous and Thesis committee (M.Sc.) Carla Whisner (completed in 2011)

Brookfield, A. E.—2011 KGS Student Awards Committee

Ludvigson, G. A.—Service on KGS Stratigraphic Nomenclature Committee.

Ludvigson, G. A.—Service as STATEMAP Coordinator for the KGS.

Ludvigson, G. A.—Service on KU Geology Search Committee for the Ritchie Distinguished Professorship in Sedimentary Geology.

Ludvigson, G. A.—Primary mentor for NSF Earth Science Postdoctoral Fellow Dr. Brad Cramer (Ph.D. Ohio State University). Dr. Cramer began two major international scientific initiatives in the IGCP Project 591 and the Digital Integrated Stratigraphy Project funded by the German Science Foundation (DFG).

Ludvigson, G. A.—Co-chaired KU M.S. thesis committee for Mark Villarreal.  
 Ludvigson, G. A.—Co-chaired KU M.S. thesis committee for Hunter Harlow.  
 Ludvigson, G. A.—Co-chaired KU Ph.D. committee for Tony Layzell.  
 Ludvigson, G. A.—Supervision and collaboration with KGS GRA and KU Ph.D. student Laura Murphy on calculation of Cretaceous pCO<sub>2</sub> values from pedogenic carbonates for presentation at the November 2011 GSA and December 2011 AGU meetings, and for invited paper in *Cretaceous Research*.  
 Ludvigson, G. A.—Co-Advisor, Graduate Student Advisees:  
   J. Chad Lollar, M.S. with Honors, 2011, The University of Kansas.  
 Mandel, R. D.—Chair, Kansas Geological Survey Promotion and Review Committee, 2011.  
 Miller, R.—Thesis committee member, Bevin Bailey (Masters) 2013, University of Kansas (co-chair); Tyler Schwenk (Masters) 2012, University of Kansas (chair); Craig Hendrix (Masters) 2012, University of Kansas (chair); Benjamin Rickards (Masters) 2010, University of Kansas (co-chair).  
 Newell, K. D.—Search Committee Chair – Energy Research Section (Geoscientist Position).  
 Newell, K. D.—Search Committee Chair – Energy Research Section (Petroleum Engineer Position).  
 Newell, K. D.—Committee Member – KGS Promotions and Review Committee.  
 Newell, K. D.—Committee Member – Merriam International Travel Research Award.  
 Platt, B. F.—Graduate student member, Ritchie Distinguished Professor in Sedimentary Geology search committee.  
 Platt, B. F.—Taught GEOL 105 summer and fall 2011 through KU Center for Online and Distance Learning.  
 Sawin, R.—KGS Stratigraphic Nomenclature Committee (Chair).  
 Sawin, R.—Search committee member for KGS Director.  
 Smith, J. J.—Committee Chair, Outstanding Student Awards, Kansas Geological Survey  
 Smith, J. J.—Search Committee Member - High Plains Data Manager, Kansas Geological Survey

## **External Service**

Bohling, G. C.—Deputy Chair, Groundwater Technical Committee, Hydrology Section, American Geophysical Union, 2010-2012.  
 Bohling, G. C.—Associate Editor, Ground Water, 2007-present.  
 Bohling, G. C.—Editorial Board Member, Computers & Geosciences, 2004-present.  
 Brookfield, A. E.—Newsletter Editor, Geological Society of America, Hydrogeology Division (2009 - )  
 Brookfield, A. E.—Associate Editor, Ground Water (2011 - )  
 Brookfield, A. E.—Hydrologist Mentor for Johnson County Student through K-12 Science Education for Kansas State University-Olathe (2011)  
 Ludvigson, G. A.—Mentoring Activities: Kansas Geological Survey & Department of Geology, University of Kansas; Department of Geoscience, The University of Iowa.  
 Post-Doctoral Research Associates:  
   Randy Stotler, Kansas Geological Survey (Ph.D. 2008 University of Waterloo; S. K. Frape, advisor) July 2010-August 2011; NSF-sponsored research on the isotopic hydrogeochemistry of the Neogene Ogallala Formation of western Kansas (accepted appointment as Assistant Professor at the University of Kansas).  
   Bradley D. Cramer, Kansas Geological Survey/University of Kansas, (Ph.D. 2009 Ohio State University, M. R. Saltzman, advisor) February 2010-January 2012; NSF Earth Sciences Postdoctoral Fellowship (EAR-PF: *Recalibrating the Silurian System using integrated high-resolution biochemostratigraphy and geochronology: A case study for the Paleozoic Era*). Leader for IGCP Project 591 – *The Early to Middle Paleozoic Revolution*. Co-PI for *The Digital Integrated Stratigraphy Project* funded by the German Research Council (DFG).  
 Ludvigson, G. A.—Service as Associate Editor of the Journal of Sedimentary Research.  
 Ludvigson, G. A.—Coordinated peer review and made AE recommendation for paper submitted to Journal of Sedimentary Research (by Korbar et al.; recommended for publication with minor revisions); June 2011.  
 Ludvigson, G. A.—Reviewed manuscript for GSA's Geology (by White et al., recommended for publication with major revisions); paper was returned to authors for major revisions; July 2011.  
 Ludvigson, G. A.—Reviewed manuscript for Sedimentology (by Myers et al.; recommended acceptance with minor revisions); July 2011.

Ludvigson, G. A.—Reviewed manuscript for SEPM Special Publication on *Frontiers in Paleopedology and Terrestrial Paleoclimatology* (by Mongrain et al.; recommended acceptance with minor revisions); August 2011.

Ludvigson, G. A.—Reviewed manuscript for GSA's Geosphere (by Sprinkel et al.; recommended acceptance with minor revisions); paper was rejected because of limited geographic scope; November 2011.

Ludvigson, G. A.—Reviewed manuscript for Earth & Environmental Science Transactions of the Royal Society of Edinburgh (by Bergström et al.; recommended acceptance with minor revisions); November 2011.

Ludvigson, G. A.—Coordinated peer review and made AE recommendation for paper submitted to Journal of Sedimentary Research (by Foreman et al.; recommended major revisions); December 2011.

Ludvigson, G. A.—Coordinated peer review and made AE recommendation for paper submitted to Journal of Sedimentary Research (by Bojanowski et al.; recommended major revisions); December 2011.

Mandel, R. D.—Chair, Awards Committee, Archaeological Geology Division, Geological Society of America, 2011

Mandel, R. D.—Associate Editor, Encyclopedia of Geoarchaeology, Springer Press, 2011

Mandel, R. D.—Associate Editor, Geoarchaeology: An International Journal, Wiley-Blackwell, 2011

Mandel, R. D.—Associate Editor, Current Research in the Pleistocene, Center for the Study of the First Americans, 2011.

Mandel, R. D.—Organizer and leader of field trip, Soils and Quaternary Landscape Evolution in the Medina River Valley, South-Central Texas, Annual Meeting of the Soil Science Society of America, San Antonio, Texas, October 15, 2011.

Miller, R.—SEG Executive Committee, 2011-2012. Liaison to Committee on University & Student Programs, Continuing Education Committee, Online Committee, Mining and Geothermal Committee, Near-Surface Task Force, Inter-Society Collaboration Committee, and the AGI Environmental Geoscience Advisory Committee.

Miller, R.—Workshop Convener, Geophysics Applied to Geohazards, SEG Conference, San Antonio, Texas, September 23, 2011.

Miller, R.—KU Faculty Senate Research Committee, 2011-2012.

Miller, R.—DOE-EM30 Scientific Opportunities for Monitoring of Environmental Remediation Sites (SOMERS) Task Force, 2010-present.

Miller, R.—National Advisory Team for Geophysics in Hydrology, organized by the Consortium of Universities for the Advancement of Hydrologic Sciences Inc., 2006-present.

Miller, R.—ASTM Geophysics Subcommittee on Seismic Standards, 2006-present.

Miller, R.—Geophysical Society of Kansas, Editor, 2005-present.

Miller, R.—SEG Technical Session Chair, 2010, 2011.

Miller, R.—SEG, Special Issue Editor, The Leading Edge: February 2011 (v. 30, n. 2), Near-Surface Geophysics; August 2010 (v. 29, n. 8), Shallow Hazards.

Miller, R.—SEG Foundation, Projects of Special Merit Committee, 2009-2011.

Miller, R.—Referee for SEG Annual Meeting Abstracts

Miller, R.—Referee for EAGE Annual Meeting Expanded Abstracts

Newell, K. D.—Midcontinent Councilor for American Association of Petroleum Geologist Energy Minerals Division.

Platt, B. F.—Reviewer for PALAIOS—one manuscript.

Platt, B. F.—Topical Session Co-chair, Lessons From the Living: Paleontological Investigations Using Modern Analogs, Geological Society of America Annual Meeting, October 9–12, 2011.

Sawin, R.—Member, Kansas State University Geology Advisory Council (1995–present).

Sawin, R.—Member, Reservoir Siting Technical Advisory Committee, Kansas Water Office.

Smith, J. J.—Session Co-Chair, Lessons from the Living: Paleontological Investigations Using Modern Analogs, Annual Meeting of the Geological Society of America.

Wilson, B. B.—Assisted the Kansas Water Office in updating the 2010 Kansas Water Plan's High Plains Aquifer High Priority Areas map.

Wilson, B. B.—Provided support to the State's Water Banking Review Committee but running sensitive water right computations as part of identifying priority areas within the South Central Kansas Water Ground-Water Banking service area.

Wilson, B. B.—Worked with the National Geographic Magazine to develop a graphic showing water right development and water level declines in Haskell County, Kansas.

## **KGS Web Site Additions**

28 KGS bulletins were added to the web site during 2011 with five older publications from other series.

28 KGS open-file reports were placed online.

Maps were scanned and added to the web site for all of the county bulletins and many of the other older publications placed online.

Around 13,000 water well completion forms were scanned in 2011. 27,000 wireline logs were scanned and added to the web site, and over 3,000 other documents for oil and gas wells were scanned.

## **Refereed Publications**

- Bohling, G. C., and Butler, J. J., Jr., 2010, Inherent limitations of hydraulic tomography: Ground Water.
- Buchanan, R. C., ed., 2010, Kansas geology—An introduction to landscapes, rocks, minerals, and fossils, 2nd ed., rev.: University Press of Kansas, 227 p.
- Buchanan, R. C., and McCauley, J. R., 2010, Roadside Kansas—A traveler's guide to its geology and landmarks, 2nd ed., rev.: University Press of Kansas, 376 p.
- Chen, B., Xia, J., Wang, Q., Chen, C., Miller, R. D., and Liang, Q., 2010, Estimating ground-water storage changes in the western Kansas using grace data: Symposium on the Application of Geophysics to Environmental and Engineering Problems (SAGEEP), Annual Meeting of the Environmental and Engineering Geophysical Society (EEGS), April 11–15, 2010, Keystone, CO, p. 264–276.
- Chung, I. M., Kim, N. W., Lee, J., and Sophocleous, M. A., 2010, Assessing distributed groundwater recharge rate by using integrated surface-groundwater modeling—Application to Mihocheon watershed, Korea: Hydrogeology Journal, v. 18, no. 5, p. 1,253–1,264.
- Collins, J. M., and Mandel, R. D., 2010, Archaeological and geomorphological evaluation of the west lobe of the Allen Alluvial Fan Site – 13HA385: Journal of the Iowa Archeological Society, v. 57, p. 43–63.
- Cordova, C. E., Johnson, W. C., Mandel, R. D., and Palmer, M. W., in press, Late Quaternary environmental change inferred from phytoliths and other soil-related proxies—Case studies from the central and southern Great Plains, USA: Catena.
- Dorale, J. A., Wozniak, L. A., Bettis III, E. A., Carpenter, S. J., Mandel, R. D., Hajic, E. R., Lopinot, N. H., and Ray, J. H., 2010, Isotopic evidence for younger dryas aridity in the North American midcontinent: Geology, v. 38, p. 519–522.
- Driese, S. G., Ludvigson, G. A., Roberts, J. A., Fowle, D. A., González, L. A., Smith, J. J., Vulava, V. M., and McKay, L. D., 2010, Micromorphology and stable-isotope geochemistry of historical pedogenic siderite formed in PAH-contaminated alluvial clay soils, Tennessee, USA: Journal of Sedimentary Research, v. 80, p. 943–954.
- Farlow, J. O., Richards, R. L., Garniewicz, R. C., Greenan, M., Wepler, W. R., Shunk, A. J., Ludvigson, G. A., Shaffer, N. R., and Wenning, A. L., 2010, Occurrence and features of fossiliferous sediments of the Pipe Creek Sinkhole (Late Neogene, Grant County, Indiana); *in*, Geology of the Late Neogene Pipe Creek Sinkhole (Grant County, Indiana), J. O. Farlow, J. C. Steinmetz, and D. A. DeChurch, eds.: Indiana Geological Survey, Special Report 69, Indiana University, Bloomington, p. 1–60.
- Franseen, E. K., Byrnes, A. P., Cansler, J., Steinhaff, D. M., Carr, T. R., and Dubois, M. K., in press, Geologic characteristics of Arbuckle reservoirs in Kansas: Proceedings of the Fifteenth Oil Conference, Tertiary Oil Recovery Project, University of Kansas, 28 p.
- Gleeson, T., VanderSteen, J., Sophocleous, M. A., Tanikuchi, M., Alley, W. M., Allen, D. M., and Zhou, Y., 2010, Groundwater sustainability strategies: Nature Geoscience, v. 3, no. 6, p. 378–379.
- Hunter, J. A., Motazedian, D., Crow, H. L., Brooks, G. R., Miller, R. D., Pugin, A. J-M., Pullan, S. E., and Xia, J., 2010, Near-surface shear wave velocity measurements for soft soil earthquake hazard assessment—Some Canadian mapping examples; *in*, Advances in Near-Surface Seismology and Ground-Penetrating Radar, R. D. Miller, J. D. Bradford, and K. Holliger, eds.: Tulsa, Society of Exploration Geophysicists.
- Ivanov, J., Miller, R. D., Peterie, S. L., and Dunbar, J. B., 2010, Practical focusing of surface-wave inversion to image levees in southern New Mexico: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2010), Keystone, Colorado, April 11–15, p. 97–102.
- Ivanov, J., Miller, R. D., Xia, J., Dunbar, J. B., and Peterie, S. L., 2010, Refraction nonuniqueness studies at levee sites using the refraction-tomography and JARS methods; *in*, Advances in Near-Surface Seismology and Ground-Penetrating Radar, R. D. Miller, J. D. Bradford, and K. Holliger, eds.: Tulsa, Society of Exploration Geophysicists SEG Geophysical Developments Series No. 15, p. 327–338.
- Ivanov, J., Miller, R. D., Xia, J., and Peterie, S. L., 2010, Multi-mode inversion of multi-channel analysis of surface waves (MASW) dispersion curves and high-resolution linear radon transform (HRLRT) [Exp. Abs.]: Annual Meeting of the Society of Exploration Geophysicists, Denver, Colorado, October 17–21, p. 1902–1907.
- Liu, G. Zheng, C., Tick, G. R., Butler, J. J., Jr., and Gorelick, S. M., 2010, Relative importance of dispersion and rate-limited mass transfer in highly heterogeneous porous media—Analysis of a new tracer test at the MADE site: Water Resources Research, v. 46, W03524.

- Ludvigson, G. A., Joeckel, R. M., González, L. A., Gulbranson, E. L., Rasbury, E. T., Hunt, G. J., Kirkland, J. I., and Madsen, S., 2010, Correlation of Aptian-Albian carbon isotope excursions in continental strata of the Cretaceous foreland basin, eastern Utah, USA: *Journal of Sedimentary Research*, v. 80, p. 955-974.
- Ludvigson, G. A., Witzke, B. J., Joeckel, R. M., Ravn, R. L., Phillips, P. L., González, L. A., and Brenner, R. L., 2010, New insights on the sequence stratigraphic architecture of the Dakota Formation in Kansas–Nebraska–Iowa from a decade of sponsored research activity; *in*, *Current Research in Earth Sciences: Kansas Geological Survey, Bulletin 258, part 2*, 35 p.; available online at <http://www.kgs.ku.edu/Current/2010/Ludvigson/Bull258part2.pdf>.
- Luo, Y., and Sophocleous, M. A., 2010, Seasonal ground-water contribution to crop-water use assessed with lysimeter observations and model simulations: *Journal of Hydrology*, v. 389, no. 3–4, p. 325–335.
- Luo, Y., Xia, J., Xu, Y., and Zeng, C., 2010, Group-velocity dispersion analysis of high-frequency Rayleigh waves: *Proceedings of the 4<sup>th</sup> International Conference on Environmental and Engineering Geophysics (ICEEG)*, June 14–19, 2010, Chengdu, China, p. 189–194.
- Luo, Y., Xia, J., Xu, Y., Zeng, C., and Liu, J., in press, Finite-difference modeling and dispersion analysis of high-frequency Love waves for near-surface applications: *Pure and Applied Geophysics*.
- Maili, E., Habib, K. H., and Rush, J., 2010, 4C seismic anisotropy integration for fracture characterization of carbonate reservoirs applied in Idd El Shargi fields, offshore Qatar; *in*, *Barremian–Aptian stratigraphy and hydrocarbon habitat of the eastern Arabian Plate*, F. S. P. van Buchem, M. I. Al-Husseini, F. Maurer, and H. J. Droste, eds.: *GeoArabia Special Publication 4*, p. 605–614.
- Miller, R. D., 2010, An introduction to this special section—Shallow hazards: *Leading Edge*, v. 29, no. 8, p. 928–929.
- Miller, R. D., Bradford, J. D., and Holliger, K., eds., 2010, *Advances in Near-Surface Seismology and Ground-Penetrating Radar*, SEG Geophysical Developments Series No. 15: Tulsa, Society of Exploration Geophysicists.
- Miller, R. D., Ivanov, J. Xia, J., Peterie, S. L., and Sloan, S. L., 2010, Seismic investigations of subsidence hazards [Exp. Abs.]: *Annual Meeting of the Society of Exploration Geophysicists*, Denver, Colorado, October 17-21, p. 3769-3773.
- Miller, R. D., and Xia, J., in press, High-resolution seismic reflection to image hydrogeologic sequences: *Near-Surface Geophysics*, EAGE.
- Newell, K. D., and Watney, W. L., 2010, Niobrara chalk gas fields play in northwestern Kansas; *in*, *New Plays and Ways*, D. F. Merriam, D.F., ed.: *Kansas Geological Society (Wichita, KS), Kansas Oil and Gas Fields*, v. VI, p. 85-104.
- Newell, K. D., and Yoakum, R. L., 2010, Kansas coalbed methane play; *in*, *New Plays and Ways*, D. F. Merriam, D.F., ed.: *Kansas Geological Society (Wichita, KS), Kansas Oil and Gas Fields*, v. VI, p. 105-128.
- Nippert, J. B., Butler, J. J., Jr., Kluitenberg, G. J., Whittemore, D. O., Arnold, D., Spal, S. E., and Ward, J. K., 2010, Patterns of Tamarix water use during a record drought: *Oecologia*, v. 162, no. 2, p. 283–292.
- Platt, B. F., Hasiotis, S. T., and Hirmas, D. R., 2010, Use of low-cost multistripe laser triangulation (MLT) scanning technology for three-dimensional, quantitative paleoichnological and neoichnological studies: *Journal of Sedimentary Research*, v. 80, p. 590–610 (journal cover).
- Sawin, R. S., and West, R. R., 2010, Surficial geology of Geary County, Kansas: *Kansas Geological Survey, Map M-122, scale 1:50, 000*. <http://www.kgs.ku.edu/General/Geology/County/ghj/gearyLarge.html>
- Sloan, S. D., Peterie, S. L., Ivanov, J., Miller, R. D., and McKenna, J. R., 2010, Void detection using near-surface seismic methods; *in*, *Advances in Near-Surface Seismology and Ground-Penetrating Radar*, R. D. Miller, J. D. Bradford, and K. Holliger, eds.: *Tulsa, Society of Exploration Geophysicists*.
- Sophocleous, M. A., 2010, Groundwater management practices, challenges, and innovations in the High Plains aquifer, USA—Lessons and recommended actions: *Hydrogeology Journal*, v. 18, no. 3, p. 559–575.
- Sophocleous, M. A., 2010, Understanding and explaining surface tension and capillarity—An introduction to fundamental physics for water professionals: *Hydrogeology Journal*, v. 18, no. 4, p. 811–821.
- Sophocleous, M. A., 2010, Ground-water legal framework and management practices in the High Plains aquifer, USA; *in*, *Practices in Groundwater Management*, A. N. Findikakis and K. Sato, eds.: *IAHR Monograph*, in press.
- Sophocleous, M. A., 2010, Relationships between ground water and surface water in the prairie wetlands of North America (text and powerpoint presentation); *in*, “El papel del agua subterránea en el funcionamiento de los humedales” *La Alfranca–Pastriz (Zaragoza)*, L. J. Lamban, J. Heredia, and M. Valverde, eds.: *Workshop Proceedings, International Association of Hydrogeologists–Spanish Chapter, Zaragoza, Spain, October 2009*, p. 1–63.

- Sophocleous, M. A., Townsend, M. A., Vocasek, F., Ma, L., and KC, A., 2010, Treated wastewater and nitrate transport beneath irrigated fields near Dodge City, Kansas; *in*, Current Research in Earth Sciences: Kansas Geological Survey, Bulletin 258, part 1, 31 p.; online at <http://www.kgs.ku.edu/Current/2010/Sophocleous/index.html>.
- Suarez, M. B., González, L. A., and Ludvigson, G. A., 2010, Estimating the oxygen isotopic composition of equatorial precipitation during the mid-Cretaceous: *Journal of Sedimentary Research*, v. 80, p. 480–491.
- Suarez, M. B., González, L. A., Ludvigson, G. A., Vega, F. J., and Alvarado–Ortega, J., 2009, Isotopic composition of low-latitude paleoprecipitation during the Early Cretaceous: *Geological Society of America, Bulletin*, v. 121, no. 11/12, p. 1,584–1,595.
- West, R. R., Miller, K. B., and Watney, W. L., 2010, The Permian System in Kansas: Kansas Geological Survey, Bulletin 257, 82 p.
- Xia, J., Ludvigson, G., Miller, R.D., Mayer, L., and Haj, A., 2010, Delineation of a volcanic ash body using electrical resistivity profiling: *Journal of Geophysics and Engineering*, v. 7, p. 267–276.
- Xia, J., Ludvigson, G., Miller, R. D., Mayer, L., and Haj, A., 2010, Feasibility of delineating a volcanic ash body using electrical resistivity profiling: *Journal of Geophysics and Engineering*, v. 7, p. 267–276.
- Xia, J., and Miller, R. D., 2010, Estimation of near-surface shear-wave velocity and quality factor by inversion of high-frequency Rayleigh waves; *in*, *Advances in Near-Surface Seismology and Ground-Penetrating Radar*, R. D. Miller, J. D. Bradford, and K. Holliger, eds.: Tulsa, Society of Exploration Geophysicists.
- Xia, J., Miller, R. D., Cakir, R., Luo, Y., Xu, Y., and Zeng, C., 2010, Revisiting SH-wave data using love-wave analysis: Symposium on the Application of Geophysics to Environmental and Engineering Problems (SAGEEP), Annual Meeting of the Environmental and Engineering Geophysical Society (EEGS), April 11–15, 2010, Keystone, CO, p. 569–580.
- Xia, J., Miller, R. D., Cakir, R., Luo, Y., Xu, Y., and Zeng, C., 2010, Estimation of near-surface shear-wave velocity using multichannel analysis of Love waves (MALW): *Proceedings of the 4<sup>th</sup> International Conference on Environmental and Engineering Geophysics (ICEEG)*, June 14–19, 2010, Chengdu, China, p. 13–24.
- Xia, J., Miller, R. D., Ivanov, J., and Peterie, S. L., 2010, Estimation of near-surface quality factors by inversion of Rayleigh-wave attenuation coefficients [Exp. Abs.]: *Annual Meeting of the Society of Exploration Geophysicists*, Denver, Colorado, October 17–21, p. 1908–1913.
- Xia, J., Xu, Y., Miller, R. D., and Zeng, C., 2010, A trade-off solution between model resolution and covariance in surface-wave inversion: *Pure and Applied Geophysics*.
- Zhang, K., Luo, Y., Xia, J., and Chen, C., 2010, Pseudospectral modeling and dispersion analysis of Rayleigh waves in viscoelastic media: *Proceedings of the 4<sup>th</sup> International Conference on Environmental and Engineering Geophysics (ICEEG)*, June 14–19, 2010, Chengdu, China, p. 298–302.

## **Nonrefereed/Unpublished Papers**

- Brady, L. L., 2010, “Kansas” section—2010 Keystone Coal Industry Manual: Mining Media International, Jacksonville, Florida, p. 480–483.
- Buddemeier, R. W., Stotler, R., Butler, J. J., Jr., Jin, W., Beeler, K., Reboulet, E., Macfarlane, P. A., Kreitzer, S., Whittemore, D. O., Bohling, G., and Wilson, B. B., 2010, High Plains aquifer calibration monitoring well program—Third year progress report: Kansas Geological Survey, Open-file Report 2010–3, 109 p.
- Dunham, John, 2010. The topography and major rivers of the Kansas Flint Hills (map). *Symphony in the Flint Hills – Field Journal 2010, Vol. II.*, p. 90. Strong City, Kansas: Symphony in the Flint Hills Press. 186 pp.
- Dunham, J., West, R., Sawin, R., Brady, L., Ramirez, I., Bieker, C., and Haag, D., 2010, Surficial geology of Crawford County, Kansas; *in*, *ESRI Map Book*, v. 25, p. 84–85: ESRI Press, Redlands, CA [http://www.esri.com/mapmuseum/mapbook\\_gallery/volume25/mining-earth/mining-earth-2.html](http://www.esri.com/mapmuseum/mapbook_gallery/volume25/mining-earth/mining-earth-2.html)
- Evans, C. S., 2010, Playas in Kansas and the High Plains: Kansas Geological Survey, Public Information Circular 30, 6 p.
- Lyle, S. A., Evans, C. S., Sawin, R. S., and Buchanan, R. C, eds., 2010, Flint Hills, Cross Timbers, and Verdigris River Valley, 2010 Kansas Field Conference, field guide: Kansas Geological Survey, Open-file Report 2010–8, 73 p.
- Miller, R. D., 2010, Seismic reflection survey; Health and Safety Plan, Savannah River National Laboratory: Kansas Geological Survey, Open-file Report 2010–12.

- Miller, R. D., Peterie, S. L., Ivanov, J., Bennett, B. C., Wedel, A. R., Metheny, O. M., Kearns, J. D., and Rickards, B. T., 2010, Seismic detection of San Luis, Arizona, cross-border tunnel: Kansas Geological Survey, Open-file Report 2010-4.
- Newell, K. D., 2010, Fall may be imminent for Kansas Cherokee basin coalbed gas output: *Oil and Gas Journal*, v. 105, no. 5 (Feb. 8th), p. 33–40.
- Newell, K. D., 2010, Communications from individuals regarding their role in the history of the coalbed natural gas play in eastern Kansas, circa 1990 to 2010: Kansas Geological Survey, Open-file Report 2010-15, 15 p.
- Newell, K. D., and Carr, T. R., 2010, Investigation of integrated subsurface processing of landfill gas and carbon sequestration potential, Johnson County, Kansas: Kansas Geological Survey, Open-file Report 2010-17, 113 p.
- Sawin, R. S., and West, R. R., 2010, Data control points used to construct the surficial geology map (M-122) of Geary County, Kansas: Kansas Geological Survey, Open-file Report 2010-13, 218 p.  
[http://www.kgs.ku.edu/Publications/OFR/2010/OFR10\\_13/](http://www.kgs.ku.edu/Publications/OFR/2010/OFR10_13/)
- Sawin, R. S., and West, R. R., 2010, Field geology maps, Morris County, Kansas (1:24,000 quadrangles—Delavan, Herington, and Wilsey quadrangles): Kansas Geological Survey, Open-file Report 2010-5, 40 p., 1 map.
- Sophocleous, M.A., 2010, Relationships between ground water and surface water in the prairie wetlands of North America. (text and Powerpoint presentation); *in*, “El papel del agua subterránea en el funcionamiento de los humedales,” L. J. Lamban, J. Heredia, and M. Valverde, eds.: *La Alfranca-Pastriz (Zaragoza) Workshop Proceedings*, International Association of Hydrogeologists-Spanish Chapter, Zaragoza, Spain, October 2009, p. 1-63.
- Sophocleous, M.A., 2010. Ground-water sustainability and its pursuit in the flatlands of Kansas, USA; *in*, *Hacia la gestión integral de los recursos hídricos en zonas de llanura*, M. Varni, I. Entraigas, and L. Vives, eds.: *Tomo I, 1° Congreso Internacional de Hidrología de Llanuras*, Azul, Buenos Aires, Argentina, 21-24 Sept. 2010, p. 45-56.
- Suchy, D. R., 2010, The Mineral Industry of Kansas; *in*, U.S. Geological Survey, *Area Reports—Domestic: U.S. Geological Survey Minerals Yearbook 2008*, v. II, 398 p. (Available on USGS website at <http://minerals.usgs.gov/minerals/pubs/state/ks.html#myb>).

## **Computer Software**

- Killion, M.—Application development and maintenance, including improvement of the oil and gas map viewer through the addition of new tools and functions; converting existing internet map viewers to the new technology and format used by the oil and gas map viewer; developing a test application and tools for the next generation of map viewers; and maintaining data currency through regular updates of the oil and gas wells and fields datasets. Web applications for DOE CO<sub>2</sub> sequestration project map viewer, KCC abandoned wells map viewer, and KCC gas gathering lines map viewer. Ground-water level viewing application for Exploration Place museum.
- Wilson, B.—Assist with work on the Southwest Kansas Groundwater Management District #3 Numerical Model; provide extensive data analysis, creation, processing, and scripting.
- Wilson, B.—South-central Kansas bedrock enhancement; joined completed GIS data sets with previous Ogallala work to create seamless enhanced bedrock estimates across the entire aquifer

## **Abstracts**

- Gottsfeld, A., and Mandel, R. D., 2010, Modeling the geologic potential for buried cultural resources in the upper Neosho River basin, east-central Kansas: Society for American Archaeology, 75th Annual Meeting, St. Louis, Missouri, April.
- Hirmas, D. R., Hasiotis, S. T., and Platt, B. F., 2010, Field application of multistripe laser triangulation (MLT) scanning to enhance and quantify descriptions of soil and exogenic trace morphology: *Geological Society of America Abstracts with Programs*, v. 42, no. 5.
- Holliday, V. T., and Mandel, R. D., 2010, Alluvial and lacustrine stratigraphy across the Pleistocene–Holocene boundary in the Great Plains and Southwest: American Quaternary Association, 21st Biennial Meeting, University of Wyoming, Laramie, August.



- Kessler, N., and Mandel, R. D., 2010, Landscape evolution and late-Quaternary environmental change in upper Driftwood Creek basin, south-central Kansas: American Quaternary Association, 21st Biennial Meeting, University of Wyoming, Laramie, August, poster.
- Kessler, N., and Mandel, R. D., 2010, Late-Quaternary landscape evolution and environmental change in the Red Hills of south-central Kansas—Implications for archaeological research: Society for American Archaeology, 75th Annual Meeting, St. Louis, Missouri, April.
- Lollar, J. C., Ludvigson, G. A., and González, L. A., 2010, Probing a climate model-data misfit regarding the oxygen isotopic composition of Arctic precipitation in the Cretaceous greenhouse world: Geological Society of America, Abstracts with Programs, v. 42, no. 5, p. 130.
- Ludvigson, G. A., González, L. A., Gulbranson, E., Rasbury, T., Hunt, G., Joeckel, M., Murphy, L., and Kirkland, J., 2010, Marine-terrestrial linkages associated with Early Cretaceous (Aptian–Albian) global change: *Geochimica et Cosmochimica Acta*, v. 73, no. 13, Supplement 1, p. A640 (invited presentation at Goldschmidt 2010 Conference, Knoxville, TN.).
- Ludvigson, G. A., González, L. A., Lollar, J. C., and McCarthy, P. J., 2010, What was the oxygen isotopic composition of Arctic precipitation?: American Geophysical Union, Fall Meeting Program, PP11B-1445.
- Ludvigson, G. A., González, L. A., Roberts, J. A., Fowle, D. A., and Driese, S. G., 2010, The current status of the sphaerosiderite paleoclimate proxy: Program Volume for SEPM-NSF Workshop on Paleosols and Soil Surface Analog Systems, Petrified Forest National Park, Arizona, Sept. 21–25, p. 21 (invited presentation).
- Ludvigson, G. A., Joeckel, R. M., González, L. A., Kirkland, J. I., Murphy, L., Suarez, C. A., Gulbranson, E. L., Rasbury, T., and Hunt, G., 2010, The terrestrial paleoclimatic record of the Aptian–Albian C9–C11 carbon isotope excursion in the Cretaceous North American foreland basin of eastern Utah, USA: Geological Society of America, Abstracts with Programs, v. 42, no. 5, p. 540.
- Mandel, R. D., Hofman, J. L., and Holen, S. R., 2010, Geoarchaeology of stratified Early Paleoindian cultural deposits at the Kanorado Locality, northwestern Kansas: Society for American Archaeology, 75th Annual Meeting, St. Louis, Missouri, April.
- Miller, R. D., Ivanov, J. Xia, J., Peterie, S. L., and Sloan, S. L., 2010, Seismic investigations of subsidence hazards [Exp. Abs.]: Annual Meeting of the Soc. of Expl. Geophys., Denver, Colorado, October 17–21, p. 3769–3773.
- Mintz, J. S., Driese, S. G., Ludvigson, G. A., and Breecker, D. O., 2010, Influence of changing hydrology on pedogenic calcite precipitation in vertisols, Dance Bayou, Brazoria County, TX—Implications for estimating paleoatmospheric pCO<sub>2</sub>: American Geophysical Union, Fall Meeting Program, PP11B-1434.
- Newell, K. D., and Doveton, J. H., 2010, Gas production from the Chattanooga Shale in southern Kansas—First tries and initial data for possible future reconnaissance studies (abs.): Geological Society of America, Regional Meeting, Abstracts with Programs, v. 42, no. 2, p. 42.
- Platt, B. F., Hasiotis, S. T., and González, L. A., 2010, Correlation between climate change and biodiversity in the continental Upper Jurassic Morrison Formation: Geological Society of America Abstracts with Programs, v. 42, no. 5.
- Smith, J. J., Ludvigson, G. A., Doveton, J. H., and Petronis, M., 2010, Inauguration of a scientific drilling program investigating the lithology and stratigraphy of Neogene strata of the Central High Plains aquifer in western Kansas: Geological Society of America, Abstracts with Programs, v. 42, no. 5, p. 431.
- Smith, J. J., Platt, B. F., Ludvigson, G. A., and Thomasson, J. R., 2010, Paleoenvironmental implications of ant nest trace fossils in calcic paleosols of the Neogene Ogallala Formation, Scott County, Kansas: Association of American Geographers, Great Plains/Rocky Mountain Division Annual Meeting, Program and Abstracts, p. 62.
- Sophocleous, M. A., 2010, Groundwater Management Challenges and Innovations in the High Plains Aquifer: 2010 North-Central/South-Central GSA Joint Meeting, GSA Abstracts with Program, Paper No. 39-3, Branson, MO, April 11–13, 2010.
- Sophocleous, M. A., 2010, Groundwater Management Innovations in Kansas: 27<sup>th</sup> Annual Water and the Future of Kansas Conference “Sustainable Water Resources Management: Assuring the Future,” Topeka, KS, October 26, 2010.
- Sophocleous, M. A., 2010, Groundwater Management Innovations in the Kansas High Plains Aquifer: 2010 GSA Annual Meeting, GSA Abstracts with Programs, vol. 42, no. 5, p. 432, Denver, CO, Oct. 31–Nov. 3, 2010.
- Suarez, M. B., González, L. A., and Ludvigson, G. A., 2010, The global hydrologic cycle contribution to polar warmth during the mid-Cretaceous revealed by oxygen isotopic compositions of pedogenic carbonates: American Geophysical Union, Fall Meeting Program, PP14A-04.
- Suarez, M. B., Gonzalez, L. A., and Ludvigson, G. A., 2010, Utilization of stable oxygen isotopes for quantification of the mid-Cretaceous greenhouse in the Americas: American Association of Petroleum Geology, Annual Convention and Exhibition, New Orleans, Louisiana, Abstracts Volume, v. 19, p. 249.

- Suarez, C. A., González, L. A., Ludvigson, G. A., Kirkland, J. I., and Cifelli, R., 2010, Oxygen isotopic composition of vertebrate phosphate from the Cedar Mountain Formation, UT—A tool for deciphering both global and small-scale climate change and ecologic partitioning: *Journal of Vertebrate Paleontology*, v. 30, no. 3, p. 172A.
- Suarez, C. A., Ludvigson, G. A., González, L. A., Lollar, J. C., Fiorillo, A. R., and McCarthy, P. J., 2010, Constraining Late Cretaceous terrestrial high-latitude water using oxygen isotopic compositions of pedogenic siderite and dinosaur tooth enamel—A multi-proxy approach: American Geophysical Union, Fall Meeting Program, PP14A-08.

## **Presentations**

- Brookfield, A. E.—Fully integrated surface/subsurface flow and transport modeling to Kansas Water Office, Brownbag Seminar Series, Topeka, Kansas, May 4.
- Brookfield, A. E.—Simulating flow and thermal energy transport in a fully integrated surface/subsurface hydrologic framework to KU Department of Geology Colloquium, Lawrence, Kansas, January 28.
- Butler, J. J., Jr., Hydrogeological site investigations—Recent trends, Keynote presentation at the 2010 FH-DGG Biennial Conference and General Assembly, Tuebingen, Germany, May 13.
- Butler, J. J., Jr., High-resolution characterization of spatial variations in hydraulic conductivity with direct-push technology, Clemson Hydrogeology Symposium, Clemson, South Carolina, April 1.
- Doveton, J.—Taught (with G. Bohling) workshop W6: Geoscience Education—Introducing Students to Subsurface Characterization Using Fictional Small County, April 11 at GSA Regional Meeting, Branson, Missouri.
- Doveton, J., Bohling, G. C., and Victorine, J., Subsurface Java Day: Geological Visualization and Virtual Exploration, University of Kansas, October 15, 2010.
- Ludvigson—Stable Isotope Proxies for Arctic Paleoprecipitation in the Cretaceous Greenhouse World Revisited: New Data from the Colville Basin: Workshop on Reconstructing Cretaceous Arctic and Beringian Ecosystems and Environments as Proxies for Understanding Recent High-Latitude Climate Change, International Arctic Research Center, University of Alaska Fairbanks, May 4.
- Ludvigson—Kansas Participation in the National Cooperative Geologic Mapping Program: Kansas Department of Health & Environment, Topeka, Kansas, February 22.
- Ludvigson, G. A., Development of the STATEMAP Program in Kansas: Kansas Geological Survey Advisory Council, Lawrence, KS, December 2, 2010.
- Ludvigson, G. A., Glimpses of the Greenhouse World Through a Glass Darkly: Deep-Time Paleoclimatology & the Hindcasting-Forecasting Dilemma: University of Kansas NSF IGERT Program, C-Change Colloquium Series, The Commons, Spooner Hall, University of Kansas, November 15, 2010.
- Ludvigson, G. A., The Current Status of the Sphaerosiderite Paleoclimate Proxy: SEPM-NSF Workshop on Paleosols and Soil Surface Analog Systems, Petrified Forest National Park, Holbrook, Arizona, September 23, 2010.
- Mandel, R.—The Peopling of the Great Plains—A Geoarchaeological Perspective at the The Robert L. Harness Lecture Series, Hopewell Culture National Historical Park, Chillicothe, Ohio, July 22.
- Miller, R. D.—6th Annual Border Summit, Arlington, Virginia, 2010.
- Miller, R. D.—AEG Kansas City Section Meeting, 2010.
- Miller, R. D., Anderson, J. M., Wedel, A. R., Metheny, O. M., and Schwarzer, J. C., 2010, Sonic sampling system at the Kansas Geological Survey: Geological Survey Advisory Council, Lawrence, Kansas, April 16.
- Miller, R. D., Xia, J., Peterie, S. L., and Ivanov, J., 2010, Seismic reflection characteristics of subsidence features resulting from dissolution: Kansas Geophysics in the 21st Century, Wichita, Kansas, October 28.
- Newell, K. D.—"Eastern Kansas Coalbed Methane," to Environmental Geology class, Emporia State University, November 23, 2010.
- Sophocleous, M.—Invited keynote speaker at the Workshop on Impacts of Climate Change on Water Cycling in the Arid Area of West China, Urumqi, Xinjiang, China, July 16.
- Sophocleous, M.—Invited presentation on Communicating in International Scientific Journals, Xinjiang Institute of Ecology and Geography, Chinese Academy of Science, Urumqi, July 20.
- Sophocleous, M.—Invited presentation on ground-water sustainability and management in Kansas, Institute of Geographical Sciences and Natural Resources Research, Chinese Academy of Science, Beijing, July 22.
- Sophocleous, M.—Invited keynote speaker at the 1<sup>st</sup> International Congress of Flandlands Hydrology, Azul, Buenos Aires, Argentina, September 21–24.

Suchy, D. R., Stewart, D. L., Adkins-Heljeson, D., Wilson, B., and Look, K., 2010, Ground-water information essential to sustainability (abs.): 27<sup>th</sup> Annual Water and the Future of Kansas Conference, Topeka, Kansas.

Watney, W. L.—Presentation on progress for DOE CO<sub>2</sub> contract to Kansas House Energy and Utilities Committee, January.

Watney, W. L.—Presentation on progress for DOE CO<sub>2</sub> contract to DOE National Energy Technology Lab, February.

Watney, W. L.—Presentation on progress for DOE CO<sub>2</sub> contract to Field Trip to Observe 3-D Seismic Acquisition, March.

Watney, W. L.—Presentation on progress for DOE CO<sub>2</sub> contract to Kansas Independent Oil and Gas Association & Southwest Kansas Royalty Owners Association, April.

Watney, W. L.—Presentation on progress for DOE CO<sub>2</sub> contract to Kansas Water Authority & EPA Region 7 UIC Meeting, May.

Watney, W. L.—Presentation on progress for DOE CO<sub>2</sub> contract to Kansas Next Step Conference, August.

Whittemore, D. O.—Advanced chemical characterization of Arkansas River water for TMDL development (uranium and selenium) to the U.S. Environmental Protection Agency, Impaired Waters and Watersheds Conference, Kansas City, Missouri, May 2010.

## **Awards**

Deputy, J.—KU Employee of the Month Award, June.

Franseen, E. K.—Councilor of Sedimentology Journal (2009–2012).

Mandel—2010 Geological Society of America's Kirk Bryant Award for Excellence, given in recognition of the following publication: Mandel, R. D., 2008, Buried Paleoindian-age landscapes in stream valleys of the Central Plains, USA: *Geomorphology*, v. 101, p. 342–361.

Platt, B. F.—Travel grant, Geological Society of America, South Central Section.

Xia, J.—Merriam Research Award, Kansas Geological Survey.

## **Internal Service**

Brookfield, A.—Courtesy Faculty, KU Department of Geology.

Brookfield, A.—Serving on dissertation committee at KU for Department of Geology (Ph.D.)—Rubina Firdous.

Buchanan, R.—Member of editorial board of KGS online journal *Current Research in Earth Sciences*, 1992–present.

Buchanan, R.—Member of University of Kansas Unclassified Academic Staff Task Force, Science Communication Training, Self Graduate Fellow program.

Butler, J.—University of Kansas - Student Advising - Postdoctorate Fellows: Wei Jin (2007-).

Butler, J.—Member, KGS Evaluation System Review Committee (2003-).

Butler—Co-Chair, KGS Director Search Committee (2010-).

Butler—Member, University of Kansas Office of the Vice Provost for Research and Graduate Studies Promotion Committee (2009-).

Doveton, J.—Taught Geology 791, Carbonate Petrophysics, Spring; CPE 528, Well Logging, Spring; GEOL 536, Log Analysis of Subsurface Geology, Fall; and CPE 825, Saturation, Fall 2010 at University of Kansas.

Doveton, J.—KGS Workshop “The Crash Course in Log Analysis: An Excel Spreadsheet Workshop,” March 20.

Doveton, J.—Member of editorial board of KGS online journal *Current Research in Earth Sciences*, 1992–present.

Dunham, J.—Adjunct professor, KU Department of Geography.

Dunham, J.—Currently serving on thesis committee of Amber Reynolds, an advisee of Dr. Xingong Li, KU Department of Geography.

Franseen, E.—Member of editorial board of KGS online journal *Current Research in Earth Sciences*, 1993–present.

Franseen, E.—Instructor for KU course Geology 101.

Franseen, E.—Supervised graduate student theses for KU students Zhaoqi Li, Anya Hess, Nicholas Welsh, Erin Young, Lindsay Walters Chris Lipinski, Justin Fairchild, and Rachel Dvoretzky.

Ivanov, J.—Taught course on “Multi-channel Analysis of Surface Waves (MASW),” at KGS, February 25–26 and March 4–5.

Killion, M.—Chair, KGS Student Awards Committee.

- Ludvigson, G.—Mentoring National Science Foundation Earth Sciences Postdoctoral Fellow—Bradley D. Cramer, Kansas Geological Survey/University of Kansas, (Ph.D. 2009 Ohio State University, M.R. Saltzman, advisor) February 2010-January 2012; NSF Earth Sciences Postdoctoral Fellowship (EAR-PF: Recalibrating the Silurian System using integrated high-resolution biochemostratigraphy and geochronology—A case study for the Paleozoic Era).
- Ludvigson, G.A.—Graduate Student Advisees (service on graduate committees):  
Julie Retrum, Ph.D. 2010, The University of Kansas, A Paleoclimatic and Paleohydrologic Reconstruction of Pleistocene Fossil Lake, Oregon (awarded an NSF Earth Sciences Postdoctoral Fellowship at the University of Minnesota).
- Ludvigson, G. A., Host and coordinator, KGS Stratigraphic Research Seminar on *Updating the Cretaceous Time Scale: New Results from the Western Interior* (by Brad Sageman, Northwestern University), Fall 2010.
- Ludvigson, G.—Mentored/advised two May 2010 Ph.D. graduates at University of Kansas—Marina B. Suarez, Ph.D. 2009, The University of Kansas, Perspectives on Global Climate Change in the mid-Cretaceous (Barremian-Albian), (American Geological Institute Graduate Minority Scholar; accepted Blaustein Postdoctoral Fellowship at Johns Hopkins University in 2009; accepted appointment as Assistant Professor at University of Texas San Antonio in 2010); Celina Suarez, Ph.D. 2010, The University of Kansas, Geochemical Approaches to the Study of Life and Death of Dinosaurs of the Early Cretaceous Cedar Mountain Formation, Utah (American Geological Institute Graduate Minority Scholar).
- Ludvigson, G.—Co-Chairing Graduate Thesis Committees for three M.S. students at University of Kansas—Russell Hunter Harlow, pending, The University of Kansas, Paleoclimate Record of the Ogallala Formation in western Kansas; Mark A. Villareal, M.S. pending, The University of Kansas, Actualistic Calibration of the Sphaerosiderite Paleoclimate Proxy; J. Chad Lollar, M.S. pending, The University of Kansas, Probing a Paleoclimate Model-Data Misfit in Arctic Alaska from the Cretaceous Greenhouse World.
- Ludvigson, G.—Supervised M.S. candidate Emily Tremain, M.S. pending, The University of Kansas, Multiproxy paleoenvironmental and paleohydrologic reconstructions of the Albian Mussentuchit Member of the Cedar Mountain Formation, Utah.
- Ludvigson, G.—Sessions co-convenor, Sessions PP11B & PP14A: Cretaceous Arctic Environments: Proxies for Understanding Climate Change from the “Other” Greenhouse Interval, Annual Meeting of the American Geophysical Union, San Francisco, CA. Dec. 13-17.
- Ludvigson, G.—Associate editor, Journal of Sedimentary Research; published by Society for Sedimentary Geology, 2010-2011.
- Mandel, R.—Member of faculty search committee, archaeology position, Department of Anthropology, 2009–2010.
- Mandel, R.—Member of the Kansas Geological Survey’s Promotion and Review Committee, 2010.
- Mandel, R.—Currently serving on thesis and dissertation committees at the University of Kansas for the following students: Committee Member for Brendon Asher, Department of Anthropology (M.A.); Kale Bruner, Department of Anthropology (M.A.); Janice McLean, Department of Anthropology (M.A.); Ryan Johnson, Department of Anthropology (M.A.); David Unruh, Department of Anthropology (M.A.); Shannon Ryan, Department of Anthropology (Ph.D.); Emily Williams, Department of Anthropology (Ph.D.); Justin Gramarye, Biological Sciences (Ph.D.); and Lillian Rebellato, Department of Geography (Ph.D.). Advisor/Thesis Chair for Andrew Gottsfield, Department of Anthropology (M.A.); Laura Murphy, Department of Anthropology (M.A.); Arlo McKee, Department of Anthropology (M.A.); Patrick Green, Department of Anthropology (M.A.); Kristopher West, Department of Anthropology (M.A.); Nicholas Kessler, Department of Anthropology (M.A.); Daniel Keating, Department of Anthropology (M.A.). Advisor/Dissertation Chair for Ashley Zung, Department of Geography (Ph.D.) and Tim Griffith, Department of Anthropology (Ph.D.)
- Miller, R.—Member of advisory board of KGS online journal Current Research in Earth Sciences, 1992–present.
- Miller, R.—KU thesis committees: Daniel Rice (M.S.) (chair); Lindsay Mayer (M.S.) (chair); Benjamin Rickards (co-chair); Craig Hendrix (chair); Tyler Schwenk (chair); and Zhen Li (chair).
- Platt, B. F.—Graduate student member, Ritchie distinguished professor in sedimentary geology search committee.
- Sawin, R.—KGS Stratigraphic Nomenclature Committee (Chair)
- Sawin, R.—Search committee member for KGS Director.
- Smith, J. J.—Outstanding Student Awards Committee Member, 2010, Kansas Geological Survey
- Sophocleous, M.—Member of advisory board of KGS online journal Current Research in Earth Sciences, September 1992–present.
- Sophocleous, M.—Member of KGS Promotion and Review Committee.
- Suchy, D.—Helped run KGS booth at Lawrence Water Festival, Earth Day, including a poster on water data on the internet.

Suchy, D.—Spearheaded KGS efforts with KDHE to develop and maintain online system for submitting water well completion forms (WWC-5 forms).  
 Suchy, D.—Served as KGS member of international “LAS Committee,” which develops worldwide standards for LAS files (i.e., digital e-logs).

## **External Service**

Brookfield, A.—Newsletter Editor, Geological Society of America, Hydrogeology Division (2009– ).  
 Buchanan, R.—Geological Society of America, Geology and Public Policy Committee, Chair 2009–10; Public Service Award Committee member, 2009–present; Congressional Science Fellowship Selection Committee, Chair.  
 Buchanan, R.—Member, Midwestern Governors Association Carbon Capture and Storage Task Force.  
 Butler, J.—Associate Editor, Hydrogeology Journal (2006–).  
 Butler, J.—Advances in Aquifer Testing for Improved Site Characterization: New Concepts, Field Methods and Data Analysis Procedures (taught half of course), Melbourne, Australia, March 3–5.  
 Butler, J.—Aquifer Testing for Improved Hydrogeologic Site Characterization Featuring Aqtesolv and the In-Situ LevelTroll (taught half of course), Calgary, Alberta, June 1–2.  
 Butler, J.—Elected Member, Board of Directors, Scientists and Engineers Division, National Ground Water Association (2010–).  
 Butler, J.—Appointed Member, Chair (2010), Darcy Task Force, National Ground Water Association (2008–2010).  
 Butler, J.—Faculty Opponent for Doctoral Thesis, Lund University, Sweden (2010).  
 Butler, J.—Promotion and Tenure Evaluator, College of Earth Sciences, National Central University, Taiwan (2010).  
 Doveton, J.—PEICE “Introduction to Log Analysis,” London, February 25–27.  
 Franseen, E.—SEPM Council member.  
 Franseen, E.—Associate Editor, Palaios (Journal of the Society for Sedimentary Research, SEPM), 2002–present.  
 Franseen, E.—Session Chairman for session on Origin of Carbonate Breccia Systems—Multiphase Systems, Multitime Events and Reservoir Quality, AAPG/SEPM Meeting, Denver, CO.  
 Ivanov, J.—Taught course “Surface Waves are for Everyone” at SAGEEP (sponsored by EGS), April 10.  
 Killion, M.—Member of Technical Advisory Committee of the Kansas GIS Policy Board.  
 Ludvigson, G.—Associate Editor, Journal of Sedimentary Research; published by Society for Sedimentary Geology.  
 Ludvigson, G.—Member of dissertation committee for Peter J. Rose, Ph.D. pending. Department of Geology and Geophysics, University of Minnesota, Minneapolis, MN.  
 Ludvigson, G.—Session Co-convenor, Sessions PP11B & PP14A: Cretaceous Arctic Environments: Proxies for Understanding Climate Change from the “Other” Greenhouse Interval, Annual Meeting of the American Geophysical Union, San Francisco, CA. Dec. 13–17, 2010.  
 Ludvigson, G.—Associate Editor, Journal of Sedimentary Research, published by Society for Sedimentary Geology, 2010–2011.  
 Ludvigson, G.—Host and coordinator, KU Geology Colloquium presentation on Volcanic Trigger for Cretaceous Ocean Anoxic Events? (by Brad Sageman, Northwestern University), Fall 2010.  
 Macfarlane, P. A.—Advisory Board member for the Museum of the Earth’s Teacher Friendly Guide to the Geology of the South-Central Region of the United States.  
 Mandel, R.—Member of the U.S. National Committee for the International Union for Quaternary Research (INQUA), National Academies of Science.  
 Mandel, R.—Served as an instructor at the Cutting Edge Workshop—Teaching Climate Change from the Geologic Record, co-sponsored by the U.S. National Committee for the International Union for Quaternary Research and the American Quaternary Association, University of Wyoming, Laramie, Wyoming, August 11.  
 Mandel, R.—Co-chair (with David Meltzer), Science Program Committee, 21st Biennial Meeting of the American Quaternary Association, University of Wyoming, Laramie, Wyoming, August 13–15.  
 Mandel, R.—President of the American Quaternary Association (AMQUA), a 900-member organization, 2009–2010.  
 Mandel, R.—Associate Editor, Encyclopedia of Geoarchaeology, Springer Press, 2009–2010.  
 Mandel, R.—Liaison between the Geological Society of America and the Society for American Archaeology, 2009–2010.  
 Mandel, R.—Chair, Awards Committee, Geological Society of America’s Archaeological Geology Division, 2009–

2010.

Miller, R.—SEG, online technical content board, 2010.

Miller, R.—SEG, special issue editor, *The Leading Edge*, October 2009, August.

Miller, R.—SEG Foundation, Projects of Special Merit Committee, 2009–2011.

Miller, R.—National Advisory Team for Geophysics in Hydrology, organized by the Consortium of Universities for the Advancement of Hydrologic Sciences Inc., 2006–present.

Miller, R.—ASTM Geophysics Subcommittee on Seismic Standards, 2006–present.

Miller, R.—Highway Geophysics Steering Committee, 2005–present.

Miller, R.—Geophysical Society of Kansas, Editor, 2005–present.

Miller, R.—DOE-EM30 Scientific Opportunities for Monitoring of Environmental Remediation Sites (SOMERS) Task Force, 2010–present.

Miller, R.—SEG Near Surface Task Force, 2010–present.

Miller, R.—SEG, Intersociety Task Force, 2010–present.

Miller, R.—SEG/NSG EEGS Collaboration Committee, Chair, 2010–present.

Miller, R.—SEG, Annual Meeting Technical Committee, 2010.

Miller, R.—SEG, Online Technical Content Board, 2010–2011.

Newell, K. D.—Member of KCC Oil and Gas Advisory Subcommittee.

Sawin, R.—Member of Kansas State University Geology Advisory Council (1995–present)

Sawin, R.—Liaison between Kansas Earth Science Teachers Association and Kansas Geological Survey (1993–present).

Sophocleous, M.—Editorial Advisor, *Computers & Geosciences*, January 1993–present.

Sophocleous, M.—Assistant Editor, *Natural Resources Research*, January 1999–present.

Sophocleous, M.—Associate editor-in-chief of *Journal of Arid Land*, July 2010–present.

Sophocleous, M.—Invited International Panel Reviewer of the Alberta Environment Groundwater Management Framework—Athabaska Oils Sands Region, 2009–2010.

Sophocleous, M.—Invited reviewer of upcoming publication “Groundwater Resources in Canada,” a joint publication by GSA and GSC, edited by A. Rivera, August 2010.

Sophocleous, M.—Member of the Blue Ribbon Central Kansas Water Bank Evaluation Committee, 2010.

Sophocleous, M.—Member of the Kansas Watershed Restoration and Protection Strategy Work Group (WRAPS Work Group), 2010 to present.

Suchy, D.—Created new WWC5 form for KDHE, and helped develop fillable PDF version for their website.

Suchy, D.—Served as Exhibits and Sponsors Co-Chair and on organizing committee for joint meeting of South Central and North Central Sections of GSA held in Branson, Missouri, April 11–13.

Suchy, D.—Served as Vice-Chairman on Board of Directors, Douglas County Rural Water District #5.

Suchy, D.—Served as alternate member of Board of Directors, Public Wholesale Water District #25.

Suchy, D.—Helped review Kansas Response Plan for Kansas Division of Emergency Management; served as first contact at KGS for state emergency management.

Suchy, D.—Served as judge for 4-H geology exhibits, Douglas County Fair, August 3.

Watney, W. L.—President, Kansas Geological Society and Library.

Wilson, B.—Kansas Technical Advisory Committee and the DASC Sub-committee to the Kansas GIS Policy Board.

Xia, J.—Reviewer for Geophysics, SEG publication—two manuscripts; *Journal of Applied Geophysics*—one manuscript; SEG Annual Meeting—three manuscripts; SEG/China Petroleum Society Meeting—four manuscripts.

Xia, J.—Guest Editor, *Journal of Earth Science*, June Issue.

## Refereed Publications

- Baker, R. G., Bettis, E. A., III, Mandel, R. D., Dorale, J. A., and Fredlund, G. G., 2009, Mid-Wisconsinan environments on the eastern Great Plains: *Quaternary Science Reviews*, v. 28, p. 873–889.
- Bohling, G. C., 2009, Sensitivity and resolution of tomographic pumping tests in an alluvial aquifer: *Water Resources Research*, v. 45, no. 10.
- Bovolo, C. I., Parkin, G., and Sophocleous, M. A., 2009, Groundwater resources, climate and vulnerability: *Environmental Research Letters*, v. 4, no. 3, p. 1–4.
- Bowen, M. W., Johnson, W. C., Klopfenstein, S. T., and Dunham, J. W., 2009, Developing a geospatial database of playas within the High Plains of Kansas: *Current Research in the Pleistocene*, v. 26, p. 191–193.
- Butler, J. J., Jr., 2009, Pumping tests for aquifer evaluation—Time for a change?: *Ground Water*, v. 47, no. 5, p. 615–617.
- Doveton, J. H., and Bohling, G. C., 2009, Compositional data analysis of shaly sandstones from petrophysical logs in oil and gas reservoirs: *IAMG 09, Proceedings*, 8 p.
- Fils, D., Cervato, C., Reed, J., Diver, P., Tang, X., Bohling, G., and Greer, D., 2009, CHRONOS architecture, experiences with an open-source services-oriented architecture for geoinformatics: *Computers and Geosciences*, v. 35, no. 4, p. 774–782.
- Ivanov, J., Miller, R. D., Johnson, C. D., Lane, J. W., and Clemens, D., 2009, Near-surface evaluation of Ball Mountain Dam, Vermont, using multi-channel analysis of surface waves (MASW) and refraction tomography seismic methods on landstreamer data [exp. abs.]: *Annual Meeting of the Society of Exploration Geophysicists*, Houston, TX, October 25–30, p. 1,454–1,458.
- Ivanov, J., Tsoflis, G., Miller, R. D., and Xia, J., 2009, Practical aspects of MASW inversion using varying density: *Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2009)*, Fort Worth, TX, March 29–April 2, 2009, p. 171–177.
- Liu, G., Butler, J. J., Jr., Bohling, G. C., Reboulet, E., Knobbe, S., and Hyndman, D. W., 2009, A new method for high-resolution characterization of hydraulic conductivity: *Water Resources Research*, v. 45, W08202.
- Liu, J., Zeng, X., Xia, J., and Charles, S., 2009, The separation of P-wave and S-wave from crosswell seismic data and application: *Technical Program with Biographies, SEG, 79th Annual Meeting*, Houston, TX, p. 1,320–1,324.
- Ludvigson, G. A., Sawin, R. S., Franseen, E. K., Watney, W. L., West, R. R., and Smith, J. J., 2009, A review of the stratigraphy of the Ogallala Formation and revision of Neogene (“Tertiary”) nomenclature in Kansas: *Kansas Geological Survey, Bulletin 256*, part 2, 9 p.; available online at <http://www.kgs.ku.edu/Current/2009/Ludvigson/index.html>.
- Luo, Y., Xia, J., Liu, J., Xu, Y., and Liu, Q., 2009, Research on the middle-of-receiver-spread assumption of the MASW method: *Soil Dynamics and Earthquake Engineering*, v. 29, no. 1, p. 71–79.
- Luo, Y., Xia, J., Miller, R. D., Xu, Y., Liu, J., and Liu, Q., 2009, Rayleigh-wave mode separation by high-resolution linear Radon transform: *Geophysical Journal International*, v. 179, p. 254–264.
- Luo, Y., Xia, J., Xu, Y., Zeng, C., Miller, R. D., and Liu, Q., 2009, Dipping interface mapping using mode-separated Rayleigh waves: *Pure and Applied Geophysics*, v. 166, p. 353–374.
- Macfarlane, P. A., 2009, New insights into the hydrostratigraphy of the High Plains aquifer from three-dimensional visualizations based on well records: *Geosphere*, v. 5, p. 51–58.
- Mayer, L. M., Miller, R. D., Ivanov, J., Weis, T., and Anderson, B., 2009, Angle-dependent tomostatics: *Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2009)*, Fort Worth, TX, March 29–April 2, 2009, p. 596–602.
- Merriam, D. F., Xia, J., and Harbaugh, J. W., 2009, Meteorite impact structures in the U.S. midcontinent—Analysis of the Edgerton feature in Kansas: *International Journal of Geophysics*, v. 2009, Article ID 621528, 6 p.
- Miller, R. D., 2009, An introduction to this special section—Hydrogeophysics: *Leading Edge*, v. 28, no. 10, p. 1,210.
- Miller, R. D., Xia, J., Ivanov, J., and Walters, S., 2009, Shot gathers we have known: *Symposium on the Application of Geophysics to Environmental and Engineering Problems (SAGEEP)*, *Annual Meeting of the Environmental and Engineering Geophysical Society (EEGS)*, March 29–April 2, 2009, Fort Worth, TX, p. 571–578.

- Miller, R. D., Xia, J., Rice, E., Walters, S. L., and Rademacker, T. R., 2009, Near-surface utility of vibroseis [exp. abs.]: Annual Meeting of the Society of Exploration Geophysicists, Houston, TX, October 25–30, p. 1,330–1,334.
- Miller, R. D., Xia, J., and Steeples, D. W., 2009, Seismic reflection characteristics of naturally induced subsidence affecting transportation: *Journal of Earth Science*, v. 20, no. 3, p. 496–512.
- Sawin, R. S., Franseen, E. K., Watney, W. L., West, R. R., and Ludvigson, G. A., 2009, New stratigraphic rank for the Carboniferous, Mississippian, and Pennsylvanian in Kansas: Kansas Geological Survey, Bulletin 256, part 1, 4 p.; online at <http://www.kgs.ku.edu/Current/2009/Sawin/Bull256part1.pdf>.
- Sloan, S. D., Miller, R. D., Ivanov, J., and Walters, S. L., 2009, Shear-wave velocity as an indicator of increased stress and failure potential associated with dissolution-mining voids: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2009), Fort Worth, TX, March 29–April 2, p. 363–372.
- Smith, J. J., Hasiotis, S. T., Kraus, M. J., and Woody, D. T., 2009, Transient dwarfism of soil fauna during the Paleocene–Eocene thermal maximum: *Proceedings of the National Academy of Sciences*, v. 6, p. 17,655–17,660.
- Sophocleous, M. A., 2009, Groundwater management practices and innovations in the High Plains aquifer, USA: *Hydrogeology Journal*. Submitted (under revision following “minor revision” recommendation)
- Sophocleous, M. A., Townsend, M. A., Vocasek, F., Ma, L., and KC, A., 2009, Soil nitrogen balance under wastewater management—Field measurements and simulation results: *Journal of Environmental Quality*, v. 38, no. 3, p. 1,286–1,301.
- Suarez, M. B., González, L. A., Ludvigson, G. A., Vega, F. J., and Alvarado–Ortega, J., 2009, Isotopic composition of low-latitude paleoprecipitation during the Early Cretaceous: *Geological Society of America, Bulletin*, v. 121, no. 11/12, p. 1,584–1,595; doi: 10.1130/B26453.1.
- Walters, S., Miller, R. D., Steeples, D. W., Xia, J., and Zeng, C., 2009, Detecting tunnels and underground facilities using diffracted P-waves: Symposium on the Application of Geophysics to Environmental and Engineering Problems (SAGEEP), Annual Meeting of the Environmental and Engineering Geophysical Society (EEGS), March 29–April 2, 2009, Fort Worth, TX, p. 937–942.
- Xia, J., 2009, Foreword to the special issue—Near-surface geophysics: *Journal of Earth Science*, v. 20, no. 3, p. 493–495.
- Xia, J., Cakir, R., Miller, R. D., Zeng, C., and Luo, Y., 2009, Estimation of near-surface shear-wave velocity by inversion of Love waves [exp. abs.]: Annual Meeting of the Society of Exploration Geophysicists, Houston, TX, October 25–30, p. 1,390–1,395.
- Xia, J., Ludvigson, G., Miller, R. D., Mayer, L., and Haj, A., in press, Feasibility of delineating a volcanic ash body using electrical resistivity profiling: *The Leading Edge*. Publication delayed at request of industrial client.
- Xia, J., Miller, R. D., Xu, Y., Luo, Y., Chen, C., Liu, J., Ivanov, J., and Zeng, C., 2009, High-frequency Rayleigh-wave method: *Journal of Earth Science*, v. 20, no. 3, p. 563–579.
- Xia, J., Xu, Y., Miller, R. D., and Zeng, C., 2009, A trade-off of regularized geophysical inversion using model resolution and covariance matrices: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2009), Fort Worth, TX, March 29–April 2, 2009, p. 30–40.
- Xu, Y., Xia, J., and Miller, R. D., 2009, Approximation to cutoffs of higher modes of Rayleigh waves for a layered earth model: *Pure and Applied Geophysics*, v. 166, no. 3, p. 339–351.
- Zeng, C., Xia, J., and Miller, R. D., 2009, Estimation of absorbing boundary parameters for near surface seismic modeling: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2009), Fort Worth, TX, March 29–April 2, 2009, p. 603–608.
- Zeng, C., Xia, J., Miller, R. D., and Tsoulias, G. P., 2009, Modeling results on detectability of shallow tunnels using Rayleigh wave diffraction [exp. abs.]: Annual Meeting of the Society of Exploration Geophysicists, Houston, TX, October 25–30, p. 1,425–1,429.

## **Nonrefereed/Unpublished Papers**

- Bhattacharya, S., 2009, Evaluate infill drilling options in Hugoton field—nine section area around Flower A1 well: Kansas Geological Survey, Open-file Report 2009–8, 30 p.
- Bhattacharya, S., Newell, K. D., Watney, W. L., and Sigel, J., 2009, Field tests prove microscale NRU to upgrade low-BTU gas: *Oil and Gas Journal*, v. 107, no. 40 (Oct. 26th), p. 44–53.



- Bhattacharya, S., Newell, K. D., Watney, W. L., and Sigel, J., 2009, A cost-effective solution for upgrading low-pressure, low-BTU natural gas—An experiment with a micro-scale pressure-swing adsorption plant in central Kansas: AAPG Midcontinent Meeting, AAPG Search and Discover Article #90097, Tulsa Geological Society, Tulsa, Oklahoma.
- Bhattacharya, S., Watney, W. L., Newell, K. D., and Magnuson, M., 2009, Demonstration of a low-cost 2-tower micro scale N<sub>2</sub> rejection system to upgrade low-BTU gas from stripper wells, final report, August 1, 2007–December 31, 2008: Kansas Geological Survey, Open-file Report 2009-17, 128 p.
- Brady, L. L. (contributor), 2009, The mineral industry of Kansas; *in*, Area reports—Domestic: U.S. Geological Survey, Minerals Yearbook, 2006, v. II, p. 18-1 to 18-5. (Available on USGS website at <http://minerals.usgs.gov/minerals/pubs/2006/myb2-2006-ks.pdf>.)
- Buddemeier, R. W., Butler, J. J., Jr., Jin, W., Beeler, K., Whittemore, D. O., Reboulet, E., Macfarlane, P. A., Kreitzer, S., and Wilson, B. B. contributions by J. Munson, J. and VoHigh, S., 2009, High Plains aquifer calibration monitoring well program—2009 mid-year progress report: Kansas Geological Survey, report to Kansas Water Office, Sept. 2009, 47 p.
- Butler, J. J., Jr., Duffield, G., and Kelleher, D., 2009, Field guide for slug testing and data analysis: Midwest Geosciences Group, 4 p.
- Carlson, D. L., Clabaugh, P. A., Mandel, R. D., and Pevy, C. D., eds., 2009, Prehistoric Archaeological Investigations in the Applewhite Reservoir Project Area, Bexar County, Texas: Texas A&M University, College Station, Center for Ecological Archaeology, Reports of Investigations No. 7.
- Dealy, M. T., 2009, Reconnaissance of a subsidence feature in Butler County, Kansas: Kansas Geological Survey, Open-file Report 2009–2, 15 p.; [http://www.kgs.ku.edu/Publications/OFR/2009/OFR09\\_02/index.html](http://www.kgs.ku.edu/Publications/OFR/2009/OFR09_02/index.html).
- Doveton, J. H., 2009, Review of “Well Logging for Earth Scientists,” by D. V. Ellis and J. M. Singer: American Association of Petroleum Geologists, Bulletin, v. 93, no. 2, p. 293–294.
- Dunham, J., Sawin, R., Haas, N., and Haag, D., 2009, Surficial geology of the Tallgrass Prairie National Preserve, Chase County, Kansas (map): ESRI Press, Redlands, CA, ESRI Map Book, v. 24, p. 84–85; online at [http://www.esri.com/mapmuseum/mapbook\\_gallery/volume25/mining-earth/mining-earth-2.html](http://www.esri.com/mapmuseum/mapbook_gallery/volume25/mining-earth/mining-earth-2.html).
- KC, A., and Sophocleous, M. A., 2009, Recent MODFLOW developments for ground-water modeling: Kansas Geological Survey, Open-file Report 2009–4, 139 p.
- Lyle, S. A., 2009, Glaciers in Kansas: Kansas Geological Survey, Public Information Circular 28, 6 p.
- Lyle, S. A., Evans, C. S., Sawin, R. S., and Buchanan, R. C., 2009, Field Guide, 2009 Field Conference, Southwest Kansas—Climate, Energy, and Water Consumption: Kansas Geological Survey, Open-file Report 2009–11.
- Lynott, M. J., and Mandel, R. D., 2009, Archeological and geoarcheological study of the rectangular enclosure at the Hopeton Earthworks; *in*, In the Footprints of Squier and Davis—Archeological Fieldwork in Ross County, Ohio, M. J. Lynott, ed.: National Park Service, Midwest Archeological Center, Lincoln, Nebraska, MWAC Special Report No. 5, p. 159–177.
- Mandel, R. D., Saunders, J. W., Hall, G. D., and McCulloch, S., 2009, Geomorphological and archaeological assessment; *in*, Prehistoric Archaeological Investigations in the Applewhite Reservoir Project Area, Bexar County, Texas, D. L. Carlson, P. A. Clabaugh, R. D. Mandel, and C. D. Pevy, eds.: Texas A&M University, College Station, Texas, Center for Ecological Archaeology, Reports of Investigations No. 7, p. 127–165.
- McCulloch, S., Saunders, J. W., Hall, G. D., Mandel, R. D., Miller, J., and Freuden, C., 2009, Testing; *in*, Prehistoric Archaeological Investigations in the Applewhite Reservoir Project Area, Bexar County, Texas, D. L. Carlson, P. A. Clabaugh, R. D. Mandel, and C. D. Pevy, eds.: Texas A&M University, College Station, Texas, Center for Ecological Archaeology, Reports of Investigations No. 7, p. 167–285.
- Miller, R. D., 2009, High-resolution seismic-reflection study of the anthropogenic Leesburg sinkhole in Stafford County, Kansas: Kansas Geological Survey, Open-file Report 2009–1.
- Miller, R. D., Ivanov, J., Sloan, S. D., Walters, S. L., Leitner, B., Rech, A., Wedel, B. A., Wedel, A. R., Anderson, J. M., Metheny, O. M., and Schwarzer, J. C., 2009, Shear-wave seismic study above Vigindustries, Inc. legacy salt jugs in Hutchinson, Kansas: Kansas Geological Survey, Open-file Report 2009–3, 42 p.
- Miller, R. D., Metheny, O. M., Anderson, J. M., and Wedel, A. R., 2009, Study of unconsolidated sediments at Joint Tunnel Test Range (JTTR) on Yuma Proving Grounds, Arizona: Kansas Geological Survey, Open-file Report 2010–1.
- Miller, R. D., Peterie, S. L., Bennett, B. C., Rickards, B. T., Kearns, J. D., Metheny, O. M., Wedel, A. R., Wedel, B. A., and Anderson, J. M., 2009, Baseline near-surface seismic characterization at the Joint Tunnel Test Range (JTTR) on the Joint Experimentation Range Complex (JERC) site of the Yuma Proving Grounds, Arizona: Kansas Geological Survey, Open-file Report 2010–2.

- Miller, R. D., Xia, J., Walters, S., Anderson, J., Wedel, B., and Wedel, T., 2009, Underwater full wavefield seismic investigation of a stilling basin at Hardin Dam #3 on the Arkansas River: Kansas Geological Survey, Open-file Report 2009–6.
- Newell, K. D., Bhattacharya, S., and Sears, M. S., 2009, Low-BTU gas in the US midcontinent—a challenge for geologists and engineers: *Oil and Gas Journal*, v. 107, no. 36 (Sept. 14th), p. 35–44.
- Newell, K. D., and Carr, T. R., 2009, Coalbed natural gas production and gas content of Pennsylvanian coal units in eastern Kansas; *in*, *Unconventional Energy Resources—Making the Unconventional Conventional*, T. Car, T. D’Angostino, W. Abrose, J. Pashin, and N. C. Rosen, eds.: Proceedings of the 29th Annual GCSSEPM Foundation Bob F. Perkins Research Conference, December 6–8, 2009, Houston, TX, p. 353–387.
- Newell, K. D., and Mandel, R., 2009, Preliminary field geology maps, McPherson County, Kansas—Galva, Gypsum SE, Langley, Lindsborg, Lindsborg SE, Marquette, McPherson NE, Roxbury, Windom, Windom NE, 1:24,000-scale quadrangles: Kansas Geological Survey, Open-File Report 2008–36.
- Newell, K. D., and Mandel, R. D., 2009, Preliminary geologic map of McPherson County, Kansas: Kansas Geological Survey, Open-file Report 2009–19, 1 p., 4 sheets, scale 1:24,000.
- Peterie, S. L., Miller, R. D., and Steeples, D. W., 2009, Diffraction imaging versus reflection processing for shallow void detection: 79<sup>th</sup> Annual International Meeting, Society of Exploration Geophysicists, in press.
- Raef, A. E., Watney, W. L., and Byrnes, A. P., 2009, Miscible carbon dioxide flood imaging—Analysis of 4D seismic wavelet transform spectral composites: 15th European Symposium on Improved Oil Recovery, 10 p.
- Sawin, R. S., and West, R. R., 2009, Field geology maps, Morris County, Kansas (1:24,000 quadrangles – Bushong, Council Grove, and Council Grove Lake quadrangles): Kansas Geological Survey, Open-file Report 2009–14, 44 p., 3 maps.
- Sinton, P., Sophocleous, M. A., and Bartlett, D., 2009, Preliminary comments on Equus Beds ASR Groundwater Model prepared by Burns & McDonnell: Memorandum Report to C. Brand of RW Beck, representing the City of Wichita, 35 p.
- Sinton, P., Sophocleous, M. A., and Bartlett, D., 2009, Response to Burns & McDonnell Memo dated October 13, 2009, regarding the “Equus Beds ASR Groundwater Model Prepared by Burns & McDonnell”: Memorandum report to C. Brand of RW Beck, representing the City of Wichita, 6 p.
- Smith, J., and Sleezer, R., 2009, Preliminary geologic field maps, Harvey County, Kansas: Kansas Geological Survey, Open-file Report 2009–15, 1 p., 4 sheets, scale 1:24,000.
- Sophocleous, M. A., 2009, Aquifer storage and recovery and the Lower Republican River valley, Kansas: Kansas Geological Survey, Open-file Report 2009–18, 63 slides.
- Sophocleous, M. A., 2009, Ground-water sustainability and its application in Kansas: Annual Kansas City Geotechnical Conference, Proceedings, April 17, 2009, Kansas City, MO, 17 p.
- Sophocleous, M. A., 2009, Relationships between ground water and surface water in the prairie wetlands of North America: Workshop “El papel del agua subterranea en el funcionamiento de los humedales” International Association of Hydrogeologists—Spanish Chapter, Zaragoza, Spain, Horario y Programa, October 2009.
- Sophocleous, M. A., Townsend, M. A., Vocasek, F., Ma, L., and KC, A., 2009, Impact of treated wastewater for irrigation on nitrate accumulation and transport—Field monitoring and numerical simulations: 26<sup>th</sup> Annual Water and the Future of Kansas Conference, March 26, 2009, Topeka, KS.
- Townsend, M. A., 2009, Responses to review for/by State and Federal agencies from the Kansas Geological Survey, including agency review transmittal forms, and environmental assessment comments for calendar year 2008: Kansas Geological Survey, Open-file Report 2009–7, Section E: Responses prepared by Margaret A. Townsend.
- Watney, W. L., Boardman, D. R., Doveton, J. H., Newell, K. D., Cruse, A., Thompson, T. L., Puckette, J. O., Victorine, J. R., Stalder, K., Walton, R., and Franseen, E., 2009, Preliminary high-resolution stratigraphic, biostratigraphic, petrophysical, and geochemical analysis of the Lower Carboniferous Caney and Late Devonian to Early Carboniferous Woodford and Chattanooga Shales in Oklahoma and Kansas: AAPG Abstracts, Annual Convention and Exhibition, Technical Program, p. 31; Kansas Geological Survey, Open-file Report 2009–05; online at [http://www.kgs.ku.edu/PRS/publication/2009/OFR09\\_5/index.html](http://www.kgs.ku.edu/PRS/publication/2009/OFR09_5/index.html).
- West, R. R., and Sawin, R. S., 2009, Field geology maps, Morris County, Kansas, preliminary field geology maps for Bushong, Council Grove, and Council Grove Lake, 1:24,000 scale quadrangles: Kansas Geological Survey, Open-file Report 2009–13, 44 p., 1 pl.
- Whittemore, D. O., 2009, Stormwater runoff into sand pits—Effects on ground-water quality: Kansas Geological Survey, Public Information Circular 29, 4 p.
- Wilson, B. B., Liu, G., Whittemore, D. O., and Butler, J. J., Jr., 2009, Smoky Hill River ground water model: Kansas Geological Survey, Open-file Report 2009–20, 103 p.; [http://www.kgs.ku.edu/geohydro/ofr/ofr2008\\_20/index.htm](http://www.kgs.ku.edu/geohydro/ofr/ofr2008_20/index.htm).

## **Computer Software**

- Killion, M.—Application development and maintenance, including improvement of the oil and gas map viewer through the addition of new tools and functions; converting existing internet map viewers to the new technology and format used by the oil and gas map viewer; developing a test application and tools for the next generation of map viewers; and maintaining data currency through regular updates of the oil and gas wells and fields datasets. Web applications for DOE CO<sub>2</sub> sequestration project map viewer, KCC abandoned wells map viewer, and KCC gas gathering lines map viewer. Ground-water level viewing application for Exploration Place museum.
- Wilson, B.—Assist with work on the Southwest Kansas Groundwater Management District #3 Numerical Model; provide extensive data analysis, creation, processing, and scripting.
- Wilson, B.—South-central Kansas bedrock enhancement; joined completed GIS data sets with previous Ogallala work to create seamless enhanced bedrock estimates across the entire aquifer

## **Abstracts**

- Benson, G. S., Bova, J., Putney, K. L., Wong, P., Gorman-Johnson, I., Glover, C., Quevedo, H., Hinds, D., Stephens, N., Muratov, N., Franseen, E., and Goldstein, R., 2009, Methods and data for accurate digital putcrop model construction using from Upper Miocene carbonate complex, Las Negras, Spain: American Association of Petroleum Geologists, Annual Convention and Exhibition, Denver, CO, June 7–10, Article #90090©2009.
- Bhattacharya, S., Dubois, M. K., Britt, L. K., and Barba, R. E., 2009, Accessing residual reserves in the giant Hogton–Panoma field, midcontinent United States: American Association of Petroleum Geologists, Annual Convention and Exhibition, Denver, Colorado.
- Bhattacharya, S., and Newell, K. D., 2009, CO<sub>2</sub> sequestration potential in thin and shallow coal beds—Eastern Kansas: American Association of Petroleum Geologists, Annual Convention and Exhibition, Denver, Colorado, p. 23.
- Bhattacharya, S., Newell, K. D., Watney, W. L., and Sigel, J., 2009, A cost-effective solution for upgrading low pressure, low-BTU natural gas; and experiment with a micro-scale pressure-swing adsorption plant in central Kansas (abs.): American Association of Petroleum Geologists, Mid-Continent Meeting, Tulsa, Oklahoma, Official Program, p. 23.
- Bohling, G. C., Liu, G., Butler, Jr., J. J., Reboulet, E., Vienken, T., and Schneidewind, U., 2009, Geostatistical analysis of high-resolution hydraulic conductivity estimates derived from direct-push injection logging at the MADE site; *in*, Program and Abstracts: Novel Methods for Subsurface Characterization and Monitoring—From Theory to Practice (NovCare 2009), Leipzig, Germany, May 13–16, p. 64.
- Bohling, G. C., Liu, G., Butler, J. J., Jr., Reboulet, E. C., Vienken, T., and Schneidewind, U., 2009, Geostatistical simulation of centimeter-scale hydraulic conductivity estimates from direct-push logging at the MADE site (abs.): Eos, v. 90, no. 52, Fall Meeting Supplement, Abstract H43C–1038.
- Brookfield, A. E., Sudicky, E. A. and Park, Y. – J., 2009, Investigating the importance of streambed properties on hydrologic and thermal conditions of a stream using an integrated surface/subsurface model (abs.): Geological Society of America, 2009 Portland Annual Meeting, Portland, Oregon, October 17–21.
- Butler, J. J., Jr., 2009, The development of field methods and tools for subsurface characterization (abs.): Proceedings of Workshop on Field Characterization and Modeling of Aquifer Heterogeneity, National Central University, Taiwan, p. 5.
- Butler, J. J., Jr., Dietrich, P., Knobbe, S., Liu, G., Bohling, G. C., and Reboulet, E. C., 2009, Direct-push methods for high-resolution characterization of hydraulic conductivity (abs.): Eos, v. 90, no. 52, Fall Meeting Supplement, Abstract H53J–08.
- Cruse, A. M., Boardman, D., Puckette, J., Watney, W. L., Doveton, J. H., and Newell, K. D., 2009, Eustatic sea level controls on organic carbon preservation in the Woodford Shale, southern Oklahoma (abs.): Geological Society of America, Abstracts with Programs, Annual Meeting, Portland, Oregon.
- Dogan, M., Hyndman, D. W., Van Dam, R. L., and Butler, J. J., Jr., 2009, Hydrostratigraphic analysis of the MADE site using full-resolution 3D GPR and direct-push K data (abs.): Eos, v. 90, no. 52, Fall Meeting Supplement, Abstract H43C–1051.
- Driese, S. G., Ludvigson, G. A., Roberts, J., Fowle, D., and González, L. A., 2009, Formation of historical

- pedogenic siderite in a US EPA Superfund site, Chattanooga, TN: 46th Annual Soil Survey & Land Resource Workshop, February 5, 2009, Rudder Conference Center, Texas A&M University, College Station, Texas.
- Driese, S. G., Ludvigson, G. A., Roberts, J., Fowle, D., González, L. A., McKay, L. D., and Vulava, V. M., 2009, Formation of historical pedogenic siderite in PAH-contaminated alluvial clay soils, Tennessee, USA—Part I, Insights from field relationships and micromorphology: Geological Society of America, Abstracts with Programs, v. 41, no. 7, p. 312.
- Dvoretzky, R. A., Franseen, E. K., Goldstein, R. H., and Byrnes, A. P., 2009, Reservoir characterization and 3-D static modeling of in situ shallow-water and resedimented deepwater carbonate deposits, Agua Amarga basin, SE Spain: American Association of Petroleum Geologists, Annual Convention and Exhibition, Denver, Colorado, June 7–10, Article #90090©2009.
- Gottsfeld, A. S., and Mandel, R. D., 2009, The geologic potential for cultural deposits in the upper Neosho River basin, eastern Kansas: Geological Society of America, Annual Meeting, Portland, Oregon, October.
- Haj, A. E., Mandel, R. D., and Bettis III, E. A., 2009, Landscape response to Holocene bioclimatic change recorded in the alluvial stratigraphy of the Little Osage River valley, southeastern Kansas: Geological Society of America, Annual Meeting, Portland, Oregon, October 2.
- Herrs, A. J., Taylor, M. H., Watney, W. L., and Miller, R. D., 2009, Quantifying surface subsidence along U.S. Hwy 50, Reno County, Kansas, using terrestrial LIDAR and seismic methods—Implications for sinkhole development and risk assessment along rapidly developing urban corridors (abs.): Geological Society of America, Abstracts with Programs, v. 41, no. 7, p. 677.
- Jin, W., and Butler, J. J., Jr., 2009, Water-level responses to barometric-pressure fluctuations in wells in semi-confined aquifers (abs.): Eos, v. 90, no. 52, Fall Meeting Supplement, Abstract H21C-0873.
- Kaczmarek, S. E., Whitaker, F. F., Bova, J., Franseen, E., Smart, P. L., Goldstein, R., and Leadbeater, T., 2009, From conceptual models to outcrop-based forward models using Carb3d+—Preliminary findings from La Molata, Cabo de Gata, SE Spain: American Association of Petroleum Geologists, Annual Convention and Exhibition, Denver, Colorado, June 7–10, Article #90090©2009.
- Lipinski, C. J., Goldstein, R. H., Franseen, E. K., and Tsoflis, G. P., 2009, Oolite-microbialite-coral reef 3-D reservoir analog model of the Miocene terminal carbonate complex, SE Spain: American Association of Petroleum Geologists, Annual Convention and Exhibition, Denver, Colorado, June 7–10, Article #90090.
- Liu, G., Butler, Jr., J. J., Bohling, G. C., Reboulet, E., and Knobbe, S., 2009, High-resolution characterization of vertical variations in hydraulic conductivity with direct-push technology—MADE site demonstration; *in*, Program and Abstracts: Novel Methods for Subsurface Characterization and Monitoring—From Theory to Practice (NovCare 2009), Leipzig, Germany, May 13–16, p. 61.
- Liu, G., Butler, J. J., Jr., Bohling, G. C., Reboulet, E. C., Knobbe, S., Hyndman, D. W., and Zheng, C., 2009, A new method for rapid, high-resolution characterization of hydraulic conductivity—Application to solute transport at the MADE site (abs.): Eos, v. 90, no. 52, Fall Meeting Supplement, Abstract H21b-0844.
- Liu, J., Zeng, X., Xia, J., and Charles, S., 2009, The separation of P-wave and S-wave from crosswell seismic data and application; *in*, Technical Program with Biographies: Society of Exploration Geophysicists, 79th Annual Meeting, Houston, TX.
- Ludvigson, G. A., Driese, S. G., Smith, J. J., Gonzalez, L. A., Roberts, J. A., Fowle, D., McKay, L. D., and Vulava, V., 2009, Formation of historical pedogenic siderite in PAH-contaminated alluvial clay soils, Tennessee, USA, Part II-Stable isotopic data on modern analogue for a deep-time paleoclimate proxy: Geological Society of America, Abstracts with Program, v. 41, no. 7, p. 68.
- Ludvigson, G. A., Gulbranson, E., Rasbury, T., Hunt, G., Stockli, D., Joeckel, M., González, L. A., Kirkland, J., and Madsen, S., 2009, Radiometric calibration of the stable isotope chemostratigraphy of the Early Cretaceous Cedar Mountain Formation: Geological Society of America, Abstracts with Programs, v. 41, no. 4, p. 7.
- Ludvigson, G. A., Gulbranson, E., Rasbury, T., Hunt, G., Stockli, D., Joeckel, M., González, L. A., Kirkland, J., and Madsen, S., 2009, The challenge of developing independent chronostratigraphic control for continental paleoclimatic investigations of semi-arid terrestrial strata—A case study of the Early Cretaceous Cedar Mountain Formation: American Association of Petroleum Geologists, Annual Convention & Exhibition, Denver, Colorado, June 7–10, Abstracts Volume, p. 131.
- Mandel, R. D., 2009, The paleoenvironmental context of Paleoindian occupation in the Central Great Plains of Kansas—A tale of two sites: Geological Society of America, Portland, Oregon, October.
- Mandel, R. D., 2009, The role of geoarchaeology in the search for pre-Clovis archaeological sites: Association of Earth Science Editors, Houston, Texas, October.

- Mayer, L. M., Miller, R. D., Ivanov, J., Weis, T., and Anderson, B., 2009, Angle-dependent tomostatics [abs.]: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2009), Fort Worth, Texas, March 29–April 2.
- Miller, R. D., Xia, J., Ivanov, J., and Walters, S., 2009, Shot gathers we have known [abs.]: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2009), Fort Worth, Texas, March 29–April 2.
- Mintz, J. S., Driese, S. G., and Ludvigson, G. A., 2009, Seasonal influence of changing hydrology on pedogenic carbonate formation in vertisols, Dance Bayou, Brazoria County, TX—Implications for the quantification of past atmospheric pCO<sub>2</sub>: Geological Society of America, Abstracts with Programs, v. 41, no. 7, p. 68.
- Mohammed, G. A., Jin, W., Butler, Jr., J. J., and Reboulet, E. C., 2009, Well responses to barometric-pressure fluctuations in confined and semi-confined aquifers (abs.): Geophysical Research Abstracts, v. 11, EGU2009–12812–1, EGU General Assembly.
- Newell, K. D., and Carr, T. R., 2009, Coalbed natural gas production and desorption characteristics of Pennsylvanian coals in eastern Kansas (abs.): American Association of Petroleum Geologists, Mid-Continent Meeting, Tulsa, OK, Official Program, p. 23.
- Newell, K. D., and Carr, T. R., 2009, Coalbed natural gas production and gas content of Pennsylvanian coal units in eastern Kansas (abs.): Program and Abstracts of 29th Annual GCSSEPM Foundation Bob F. Perkins Research Conference, December 6–8, Houston, Texas, p. 19.
- Ray, J. H., and Mandel, R. D., 2009, Late Paleoindian occupations at the Alley Mill site, Shannon County, Missouri: Missouri Archaeological Society, Fall Symposium, Thousand Hills State Park, Kirksville, Missouri, October.
- Rice, D., Miller, R. D., Xia, J., and Ivanov, J., 2009, Use of ultra quiet, high output accelerometers to process high frequency vibrator data [abs.]: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2009), Fort Worth, Texas, March 29–April 2.
- Smith, J. J., Ludvigson, G. A., Mandel, R., Macfarlane, P. A., Haj, A., Murphy, L., and McKee, A., 2009, A record of carbon- and oxygen-isotope excursions from pedogenic carbonates of the Neogene High Plains succession in western Kansas: Geological Society of America, Abstracts with Program, v. 41, no. 7, p. 125–126.
- Smith, J. J., Platt, B. F., Ludvigson, G. A., and Thomasson, J. R., 2009, Description and paleohydrological implications of exceptionally well preserved fossil ant nests in calcic paleosols of the Ogallala Formation (Miocene), Scott County, Kansas, USA: 9th North American Paleontological Convention Abstracts, Cincinnati Museum Center Scientific Contributions No. 3, p. 444.
- Smith, J. J., Platt, B. F., Ludvigson, G. A., and Thomasson, J. R., 2009, Exceptionally well-preserved ant nest fossils in calcic paleosols of the Ogallala Formation (Miocene), Scott County, Kansas, USA: Geological Society of America, Abstracts with Program, v. 41, no. 7, p. 161–162.
- Sophocleous, M. A., 2009, Groundwater management innovations in the High Plains aquifer, USA—A possible path towards sustainability?: Eos, v. 90, no. 52, 29 December 2009, Fall Meet. Suppl., Abstract 700516.
- Sophocleous, M. A., 2009, The impacts of ground-water over-abstraction on the environment: Eos, v. 90, no. 52, 29 December, Fall Meet. Supplement, Abstract 701736.
- Suarez, M. B., González, L. A., and Ludvigson, G. A., 2009, The mid-Cretaceous water-bearer revisited—Quantification of a greenhouse hydrologic cycle in the Americas: American Geophysical Union, Fall Meeting Program, PP31B-1312, Wednesday Session Program.
- Suarez, M. B., González, L. A., Ludvigson, G. A., and You, H., 2009, Depositional environment and stable carbon isotope chemostratigraphy of the Early Cretaceous Xiagou Formation in Changma Basin, Gansu Province, China: American Association of Petroleum Geologists, Annual Convention & Exhibition, Denver, Colorado, June 7–10, Abstracts Volume, p. 207.
- Suchy, D. R., 2009, Kansas Geological Survey Geoscience Information on the Internet: Geological Society of America, Abstracts with Programs, v. 41, no. 7, p. 98.
- Thoma, M., Malama, B., Barrash, W., Bohling, G. C., and Butler, J. J., Jr., 2009, Modeling slug tests in unconfined aquifers with both oscillatory and overdamped responses, and with low-K and high-K skin effects (abs.): Eos, v. 90, no. 52, Fall Meeting Supplement, Abstract H43C–1055.
- Walters, S. L., Miller, R. D., Steeples, D. W., Xia, J., and Zeng, C., 2009, Detecting tunnels and underground facilities using diffracted P-waves [abs.]: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2009), Fort Worth, Texas, March 29–April 2.
- Watney, W. L., Boardman, D. R., Doveton, J. H., Newell, K. D., Cruse, A., Thompson, T. L., Puckette, J. O., Victorine, J. R., Stalder, K., Walton, R., and Franseen, E., 2009, High-resolution stratigraphic, biostratigraphic, petrophysical, and geochemical analysis of the Lower Carboniferous Caney and Late Devonian to Early

- Carboniferous Woodford and Chattanooga Shales in Oklahoma and Kansas: American Association of Petroleum Geologists, Annual Convention and Exhibition, Denver, Colorado, June 7–10, Article #90090©2009.
- Whittemore, D. O., 2009, Selenium loss in the Arkansas River across the High Plains, USA: Geological Society of America, Abstracts with Program, v. 41, no. 7, p. 201.
- Whittemore, D. O., Liu, G., Wilson, B. B., and Butler, J. J., Jr., 2009, Enhanced estimation of recharge, tributary inflow, and pumping for a stream-aquifer interaction model: Program with Abstracts, 54<sup>th</sup> Annual Midwest Ground Water Conference, St. Louis.
- Xia, J., Cakir, R., Miller, R. D., Zeng, C., and Luo, Y., 2009, Estimation of near-surface shear-wave velocity by inversion of Love waves; *in*, Technical Program with Biographies: Society of Exploration Geophysicists, 79th Annual Meeting, Houston, Texas.
- Xia, J., Xu, Y., Miller, R. D., and Zeng, C., 2009, A trade-off solution of regularized geophysical inversion using model resolution and covariance matrices: Symposium on the Application of Geophysics to Environmental and Engineering Problems (SAGEEP), Annual Meeting of the Environmental and Engineering Geophysical Society (EEGS), March 29–April 2, Fort Worth, Texas, p. 30–40.
- Zeng, C., Xia, J., and Miller, R. D., 2009, Estimation of absorbing boundary parameters for near surface seismic modeling: Symposium on the Application of Geophysics to Environmental and Engineering Problems (SAGEEP), Annual Meeting of the Environmental and Engineering Geophysical Society (EEGS), March 29–April 2, Fort Worth, Texas, p. 603–608.
- Zeng, C., Xia, J., Miller, R. D., and George, P. T., 2009, Modeling results on detectability of shallow tunnels using Rayleigh-wave diffraction: Society of Exploration Geophysicists, Technical Program with Biographies, 79th Annual Meeting, Houston, Texas.

## **Presentations**

- Bhattacharya, S., Nissen, S., and Watney, W. L.—Presented invited talk to SIPES Denver Chapter, Volumetric curvature analysis—A technique to visualize reservoir compartments, September 9.
- Buchanan, R. C.—Mapping the Kansas Economy—Natural Environment, at Kansas Economic Policy Conference, Institute for Policy and Social Research, University of Kansas, Lawrence, October.
- Butler, J. J.—Subsurface characterization—Past, present, and future, Pioneers in Groundwater Award Lecture, World Environmental and Water Resources Congress 2009, American Society of Civil Engineers—Environmental and Water Resources Institute, May 19.
- Butler, J. J.—The development of field methods and tools for subsurface characterization, invited presentation to the Institute of Applied Geology, National Central University, Taiwan, April 10.
- Butler, J. J., Jr., New approaches for exploiting water-level responses to fluctuations in barometric pressure, Solinst 2009 Symposium on Recent Advances in Watershed and High Resolution Monitoring, Georgetown, Ontario, Canada, October 23.
- Butler, J. J., Jr.—Invited presentation - “Field methods and tools for ground water hydrologists: Recent developments at the KGS”, Brownbag Professional Development Lecture of the Kansas Water Office, January 7.
- Butler, J. J., Jr.—Presentations to Geohydrology Seminar Series, February and April.
- Butler, J. J., Jr.—Co-presenter of presentation on Index Well Program at the Kansas Water Office, March 3.
- Butler, J. J., Jr.—Panel moderator for session entitled “Impacts of Biofuels Production on Water” at the 26th Annual Water and the Future of Kansas Conference, Topeka, March 26.
- Butler, J. J., Jr.—Invited presentation on phreatophytes for the 2009 KGS Field Conference, June 3.
- Butler, J. J., Jr.—Direct-push demonstration, along with Ed Reboulet and Steve Knobbe, for students in KU Department of Geology introductory hydrogeology class, September 16.
- Butler, J. J., Jr.—Invited presentation on Tamarisk Water Use to the Cimarron Basin and Upper Arkansas Sub-Basin Committees, Garden City, September 30.
- Butler, J. J., Jr.—Invited presentation on phreatophyte research to the DWR Fall Conference in Topeka, October 27.
- Butler, J. J., Jr., P. Dietrich, S. Knobbe, G. Liu, G. C. Bohling, and E. C. Reboulet, Direct-push methods for high-resolution characterization of hydraulic conductivity, Fall Meeting of the American Geophysical Union, December 18.

- Butler, J. J., Jr., Jin, W., Mohammed, G. A., Kluitenberg, G. J., D.O. Whittemore, and E.C. Reboulet, Site characterization using well responses to natural stimuli, invited presentation at the Workshop on Field Characterization and Modeling of Aquifer Heterogeneity, National Central University, Taiwan, April 6.
- Dealy, M.—Presentation on “Preserving oil and gas well samples at the Wichita Well Sample Library,” to the Kansas Geological Society.
- Dunham, J.—Surficial Geology of Crawford County, Kansas. Map Gallery (poster) presentation, ESRI International User Conference, San Diego, CA, July 13. (NOTE: I was unable to attend the conference, but the map was still displayed in the Map Gallery Exhibit).
- Killion, M.—Spoke to Mid America GIS Consortium conference on "ArcGIS Server Solutions for the Kansas Oil and Gas Database."
- Kluitenberg, G. J., Butler, J. J., Jr., Whittemore, D. O., Jin, W., Arnold, D., and Reboulet, E. C., 2009, Quantifying ground-water savings achieved by salt cedar control—A demonstration project in the riparian zone of the Cimarron River, Kansas: Proceedings 26<sup>th</sup> Annual Water and Future of Kansas Conference, Topeka.
- Franseen, E. K.—Invited session chair, Origin of Carbonate Breccia Systems - Multiphase Systems, Multi-time Events & Reservoir Quality, 2009 AAPG/SEPM Meeting, Denver, Colorado.
- Look, K.—SOLAR Project – Using the Internet for KCC Filing and KDOR Severance Tax Reporting, at 17<sup>th</sup> Annual Mid-Year Meeting, Pratt Community College, Pratt, Kansas, April 23.
- Ludvigson, G.—Glimpses of the greenhouse world through a glass darkly—Deep-time paleoclimatology and the hindcasting-forecasting dilemma: University of Kansas, NSF IGERT Program, C-Change Colloquium Series, Kansas Union, April 20.
- Mandel, R.—Soils and landscape evolution in the Great Plains during the past 12,000 years—An environmental perspective: Dyck Arboretum Lecture Series, Dyck Arboretum of the Plains, Hesston, Kansas, February 28.
- Mandel, R.—The peopling of the central Great Plains—A geoarchaeological perspective: Missouri Archaeological Society 2009 Koch Lecture, Lake of the Ozarks Conference Center, April 4.
- Newell, K. D.—Kansas coalbed methane comes of age: Talk given at luncheon meeting of the Society of Independent Professional Earth Scientists, Oklahoma City.
- Smith, J. J.—Soil biota—Their role in pedogenesis and use in paleoenvironmental interpretation at the University of Kansas, Department of Geography, Guest Lecturer, November 2.
- Sophocleous, M.—Invited presentation on the Lower Republican River valley and its prospects for aquifer storage and recovery: Lower Republican River Stakeholder Advisory Committee Meeting, Clay Center, Kansas, May 12.
- Sophocleous, M.—Invited keynote speaker at the Workshop “El papel del agua subterránea en el funcionamiento de los humedales” International Association of Hydrogeologists—Spanish Chapter, Zaragoza, Spain, October 22–23.
- Sophocleous, M. A., Townsend, M. A., Vocasek, F., Ma, L., and KC, A., 2009, Impact of treated wastewater for irrigation on nitrate accumulation and transport—Field monitoring and numerical simulations: 26<sup>th</sup> Annual Water and the Future of Kansas Conference, March 26, Topeka, Kansas.
- Suchy, D. R.—Presented poster at national GSA meeting, October.
- Suchy, D. R., Stewart, D. L., Adkins-Heljeson, D., and Wilson, B., 2009, Water well information as an impact assessment and management tool (abs.): 26<sup>th</sup> Annual Water and the Future of Kansas Conference, Topeka.
- Watney, W. L.—Recent geological modeling at Hall–Gurney field, Russell, Kansas: TORP Enhanced Oil Recovery Conference, Wichita, April 1–2.
- Watney, W. L.—Presented invited talk “Evaluating Structural Controls on Phanerozoic Strata in the Central U.S.” to West Texas Geological Society, June 16.
- Watney, W. L.—Presented invited talk “Evaluating Structural Controls on Phanerozoic Strata in the Central U.S.,” at NextStep Oil and Gas Seminar, August 5–6, Hays, Kansas.
- Watney, W. L.—Presented invited talk on “Geologic Carbon Sequestration Criteria and Potential in Kansas” in seminar for annual KIOGA meeting, August 17, Wichita.
- Watney, W. L.—Presented invited talk on “Salt Deposit Dissolution in Kansas and Implications” to KDHE Annual Environmental Symposium, Proceedings, September 2, Wichita.
- Watney, W. L.—Presented invited talk on "Evaluating Structural Controls on Phanerozoic Strata in the Central U.S.," to Tulsa Geological Society, October 27.
- Watney, W. L., and Bhattacharya, S.—Made invited presentation “Review of CO<sub>2</sub> Sequestration Issues—New Research in Kansas” to Joint Session Energy Environmental Policy Committees, Kansas Legislature, October 28. Presentation distributed to committee.

- Watney, W. L.—Made three invited presentations on “Structural geology of Kansas, Lansing-Kansas City, and the Mississippian,” PTTC–Kansas Geological Society Seminar on the Petroleum Geology of Kansas, proceedings with full presentations, December 2–3.
- Whittemore, D. O.—Water-quality effects of storm runoff into sand pits in Sedgwick County, Kansas at University of Kansas 59<sup>th</sup> Annual Environmental Engineering Conference, Lawrence.
- Whittemore, D. O.—Ground-water models for water-resources planning and management in Kansas at Kansas State University, Department of Geology Seminar Series, November.
- Wilson, B.—Presentations at Kansas Geological Mapping Advisory Committee, Kansas City Civic Council, Southwest Kansas GMD #1 Annual Meeting, Southwest Kansas GMD #3 Annual Meeting, Kansas Water Authority, Southwest Kansas GMD #3 Board Meeting, Kansas Rural Water Association Conference, and Water and the Future of Kansas Conference.
- Wilson, B. B., Liu, G., Whittemore, D. O., and Butler, Jr., J. J., 2009, Ground-water model of the Smoky Hill River valley below Kanopolis Reservoir: Proceedings 26<sup>th</sup> Annual Water and Future of Kansas Conference, Topeka.
- Xia, J., 2009, 1. High-frequency Rayleigh-wave method and 2. New developments in image of Rayleigh-wave dispersion energy and mode separation: The National Taiwan University of Science and Technology Department of Civil Engineering and Taiwan Geotechnical Society.
- Xia, J., 2009, New developments in image of Rayleigh-wave dispersion energy and mode separation: Harbin Institute of Technology Shenzhen Graduate School.

## **Awards**

- Buchanan, R. C.—John K. Strickler Award for Excellence in Conservation and Environmental Education, Kansas Association for Conservation and Environmental Education, 2009.
- Butler, J. J.—Pioneers in Groundwater Award, American Society of Civil Engineers - Environmental and Water Resources Institute, 2009.
- Deputy, J.—KU Employee of the Month Award, June.
- Franseen, E. K.—Councilor of Sedimentology journal (2009–2012).
- Mandel, R.—University of Kansas College of Liberal Arts and Sciences 2009 John C. Wright Graduate Mentor Award.
- Walters, S.—Best Paper at SAGEEP 2009, one of four authors selected.
- Xia, J.—Merriam Research Award, Kansas Geological Survey.

## **Internal Service**

- Brookfield, A.—Courtesy Faculty, KU Department of Geology.
- Brookfield, A.—Serving on dissertation committee at KU for Department of Geology (Ph.D.)—Rubina Firdous.
- Buchanan, R.—Member of editorial board of KGS online journal Current Research in Earth Sciences, 1992–present.
- Butler, J.—University of Kansas - Student Advising - Postdoctorate Fellows: Wei Jin (2007-).
- Butler, J.—Member, KGS Evaluation System Review Committee (2003-).
- Butler, J.—Co-Chair, KGS Geohydrology Scientist Search Committees (2009).
- Butler, J.—Member, University of Kansas Office of the Vice Provost for Research and Graduate Studies Promotion Committee (2009-).
- Butler, J.—Member, University of Kansas Internal Review Committee, National Science Foundation Major Research Instrumentation Program Competition (2009).
- Doveton, J.—KGS Workshop “The Crash Course in Log Analysis: An Excel Spreadsheet Workshop,” March 20, Lawrence.
- Doveton, J.—Taught CPE 940 Data Analysis in Engineering and the Natural Sciences (with Geoff Bohling), Fall, at University of Kansas.
- Doveton, J.—Taught GEOL 536 Log Analysis of Subsurface Geology, Fall, at University of Kansas.
- Doveton, J.—Member of editorial board of KGS online journal Current Research in Earth Sciences, 1992–present.
- Dunham, J.—Adjunct professor, KU Department of Geography.
- Dunham, J.—Currently serving on thesis committee of Amber Reynolds, an advisee of Dr. Xingong Li, KU Department of Geography.



Franseen, E.—Member of editorial board of KGS online journal *Current Research in Earth Sciences*, 1993–present.

Franseen, E.—Instructor for KU course *Geology 101*.

Franseen, E.—Supervised graduate student theses for KU students Zhaoqi Li, Anya Hess, Nicholas Welsh, Erin Young, Lindsay Walters Chris Lipinski, Justin Fairchild, and Rachel Dvoretzky.

Killion, M.—Member of Student Awards Committee.

Ludvigson, G.—Mentoring National Science Foundation Earth Sciences Postdoctoral Fellow—Bradley D. Cramer, Kansas Geological Survey/University of Kansas, (Ph.D. 2009 Ohio State University, M.R. Saltzman, advisor).

Ludvigson, G.—Mentored/advised two May 2010 Ph.D. graduates at University of Kansas—Marina B. Suarez, Ph.D. 2009, The University of Kansas, *Perspectives on Global Climate Change in the mid-Cretaceous (Barremian-Albian)*, (American Geological Institute Graduate Minority Scholar; accepted Blaustein Postdoctoral Fellowship at Johns Hopkins University in 2009; accepted appointment as Assistant Professor at University of Texas San Antonio in 2010); Celina Suarez, Ph.D. 2010, The University of Kansas, *Geochemical Approaches to the Study of Life and Death of Dinosaurs of the Early Cretaceous Cedar Mountain Formation, Utah* (American Geological Institute Graduate Minority Scholar).

Ludvigson, G.—Co-Chairing Graduate Thesis Committees for three M.S. students at University of Kansas—Russell Hunter Harlow, pending, The University of Kansas, *Paleoclimate Record of the Ogallala Formation in western Kansas*; Mark A. Villareal, M.S. pending, The University of Kansas, *Actualistic Calibration of the Sphaerosiderite Paleoclimate Proxy*; J. Chad Lollar, M.S. pending, The University of Kansas, *Probing a Paleoclimate Model-Data Misfit in Arctic Alaska from the Cretaceous Greenhouse World*.

Ludvigson, G.—Supervised M.S. candidate Emily Tremain, M.S. pending, The University of Kansas, *Multiproxy paleoenvironmental and paleohydrologic reconstructions of the Albian Mussentuchit Member of the Cedar Mountain Formation, Utah*.

Mandel, R.—Member of faculty search committee, archaeology position, Department of Anthropology, 2009–2010.

Mandel, R.—Currently serving on thesis and dissertation committees at the University of Kansas for the following students: Committee Member for Brendon Asher, Department of Anthropology (M.A.); Kale Bruner, Department of Anthropology (M.A.); Janice McLean, Department of Anthropology (M.A.); Ryan Johnson, Department of Anthropology (M.A.); David Unruh, Department of Anthropology (M.A.); Shannon Ryan, Department of Anthropology (Ph.D.); Emily Williams, Department of Anthropology (Ph.D.); Justin Gramarye, Biological Sciences (Ph.D.); and Lillian Rebellato, Department of Geography (Ph.D.). Advisor/Thesis Chair for Andrew Gottsfield, Department of Anthropology (M.A.); Laura Murphy, Department of Anthropology (M.A.); Arlo McKee, Department of Anthropology (M.A.); Patrick Green, Department of Anthropology (M.A.); Kristopher West, Department of Anthropology (M.A.); Nicholas Kessler, Department of Anthropology (M.A.); Daniel Keating, Department of Anthropology (M.A.). Advisor/Dissertation Chair for Ashley Zung, Department of Geography (Ph.D.) and Tim Griffith, Department of Anthropology (Ph.D.).

Miller, R.—Taught KU course: *Geology 775, Near-surface Seismology*.

Miller, R.—Member of advisory board of KGS online journal *Current Research in Earth Sciences*, 1992–present.

Miller, R.—KU thesis committees: Daniel Rice (M.S.) (chair); Lindsay Mayer (M.S.) (chair); Benjamin Rickards (co-chair); Craig Hendrix (chair); Tyler Schwenk (chair); and Zhen Li (chair).

Sawin, R.—KGS Stratigraphic Nomenclature Committee (Chair).

Smith, J. J.—Geologic Assistant Search Committee Member, 2009, Kansas Geological Survey.

Sophocleous, M.—Member of advisory board of KGS online journal *Current Research in Earth Sciences*, September 1992–present.

Sophocleous, M.—*Geology 754, Contaminant Transport*, Spring 2002–2009 (guest lecturer).

## **External Service**

Brookfield, A.—Newsletter Editor, Geological Society of America, Hydrogeology Division (2009– ).

Buchanan, R.—Geological Society of America, Geology and Public Policy Committee, Chair 2009–10; Public Service Award Committee, 2009–present.

Butler, J.—Associate Editor, *Hydrogeology Journal* (2006–).

Butler, J.—*Aquifer Testing for Improved Hydrogeologic Site Characterization Featuring Aqtesolv and the In-Situ LevelTroll* (taught half of course), Fort Collins, CO, Sept. 22–23, 2009; Vancouver, British Columbia, March 10–11, 2009.

Butler, J.—*Advanced Aquifer Testing Analysis Featuring AQTESOLV: New Concepts, Field Methods, and Data Analysis Procedures* (taught half of course), Boston, MA, April 28–30.

Butler, J.—Novel Methods for Subsurface Characterization and Monitoring: From Theory to Practice - NovCare 2009, Leipzig, Germany, May, organizing committee member.

Butler, J.—Slug Testing: Practical Guidelines for Improving Efficiency and Accuracy (sole instructor – Internet seminar), Midwest Geosciences Group, Nov. 18, 2009.

Butler, J.—Appointed Member, Chair (2010), Darcy Task Force, National Ground Water Association (2008-2010).

Doveton, J.—PEICE “Introduction to Log Analysis,” London, February 25–27.

Doveton, J.—AAPG Midcontinent Meeting Short Course “Basic Log Analysis”, October 11, Tulsa, Oklahoma.

Franseen, E.—SEPM Council member.

Franseen, E.—Associate Editor, *Palaios* (Journal of the Society for Sedimentary Research, SEPM), 2002–present.

Franseen, E.—Session Chairman for session on Origin of Carbonate Breccia Systems—Multiphase Systems, Multi-time Events and Reservoir Quality, AAPG/SEPM Meeting, Denver, CO.

Ivanov, J.—Taught course “Surface Waves are for Everyone” at SAGEEP (sponsored by EEGS), March 28, 2009.

Killion, M.—Member of Technical Advisory Committee of the Kansas GIS Policy Board.

Ludvigson, G.—Panelist for Fall Funding Cycle, U.S. National Science Foundation, EAR – Sedimentary Geology and Paleobiology Program, 2009.

Ludvigson, G.—Associate Editor, *Journal of Sedimentary Research*; published by Society for Sedimentary Geology.

Ludvigson, G.—Host & coordinator, KU Geology Colloquium presentation on Global Climate & Atmospheric Carbon Dioxide for the Past 65 Million Years (by Mark Pagani, Yale University), 2009.

Ludvigson, G.—Member of dissertation committee for Peter J. Rose, Ph.D. pending. Department of Geology and Geophysics, University of Minnesota, Minneapolis.

Macfarlane, P. A.—Advisory Board member for the Museum of the Earth’s Teacher Friendly Guide to the Geology of the South-Central Region of the United States.

Mandel, R.—Editorial board member for the *Encyclopedia of Geoarchaeology*. Springer Press, 2007–09.

Mandel, R.—Associate Editor, *Encyclopedia of Geoarchaeology*, Springer Press, 2009–2010.

Mandel, R.—Liaison between Geological Society of America and Society for American Archaeology, 1994–2009.

Mandel, R.—Member of the U.S. National Committee for the International Union for Quaternary Research (INQUA), National Academies of Science.

Mandel, R.—President of the American Quaternary Association (AMQUA), a 900-member organization, 2009–2010.

Mandel, R.—Chair, Awards Committee, Geological Society of America’s Archaeological Geology Division, 2009–2010.

Miller, R.—SEG, special issue editor, *The Leading Edge*, October 2009, August 2010.

Miller, R.—Co-convenor of workshop on Near-surface Seismology and GPR at SEG conference, Houston, TX, 2009.

Miller, R.—SEG Foundation, Projects of Special Merit Committee, 2009–2011.

Miller, R.—SEG Near-Surface Geophysics Section Publications Committee, Chairman, 2008-2009; Committee on Nominations, 2007-2009.

Miller, R.—National Advisory Team for Geophysics in Hydrology, organized by the Consortium of Universities for the Advancement of Hydrologic Sciences Inc., 2006-present.

Miller, R.—ASTM Geophysics Subcommittee on Seismic Standards, 2006-present.

Miller, R.—Highway Geophysics Steering Committee, 2005-present.

Miller, R.—Geophysical Society of Kansas, Editor, 2005-present.

Miller, R.—SAGEEP EEGS Technical Session Chair, 2009.

Miller, R.—SEG Editorial Board for *The Leading Edge*, 2004–2009; chairman, 2008–2009.

Newell, K. D.—Member of KCC Oil and Gas Advisory Subcommittee.

Sawin, R.—Member of Kansas State University Geology Advisory Council (1995–present)

Sawin, R.—Liaison between Kansas Earth Science Teachers Association and Kansas Geological Survey (1993–present).

Sophocleous, M.—Invited International Panel Reviewer of the Alberta Environment Groundwater Management Framework—Athabaska Oils Sands Region, 2009–2010.

Sophocleous, M.—Editorial Advisor, *Computers & Geosciences*, January 1993–present.

Sophocleous, M.—Assistant Editor, *Natural Resources Research*, January 1999–present.

Suchy, D.—Created new WWC5 form for KDHE, and helped develop fillable PDF version for their website.

Watney, W. L.—President, Kansas Geological Society and Library.

Watney, W. L.—Member, Research Advisory Group for RPSEA (Research Partnership to Secure Energy for America).

Whittemore, D. O.—Geochemical identification of saltwater sources contaminating Kansas water resources for the Kansas Corporation Commission and the Kansas Department of Health and Environment for five sites in Barber, Dickinson, Harvey, McPherson, and Pawnee counties.

Wilson, B.—Kansas Technical Advisory Committee and the DASC Sub-committee to the Kansas GIS Policy Board.

Xia, J.—Reviewer for Geophysics, SEG publication—two manuscripts; Journal of Applied Geophysics—one manuscript; SEG Annual Meeting—three manuscripts; SEG/China Petroleum Society Meeting—four manuscripts.

Xia, J.—Guest Editor, Journal of Earth Science, June Issue.

## 2008

### Refereed Publications

- Bhattacharya, S., Byrnes, A. P., Watney, W. L., and Doveton, J. H., 2008, Flow-unit modeling and fine-scale predicted permeability validation in Atokan sandstones—Norcan East field, Kansas: American Association of Petroleum Geologists, Bulletin, v. 92, no. 6, p. 725–748.
- Bhattacharya, S., Newell, K. D., Watney, W. L., and Sigel, M., 2008, A new micro-scale, low-cost nitrogen rejection plant can now upgrade low-BTU gas and improve marginal fields: E&P, v. 81, no. 8, p. 102–103.
- Bohling, G. C., 2008, Information fusion in regularized inversion of tomographic pumping tests; *in*, Quantitative Information Fusion for Hydrological Sciences, X. Cai and T.-C. J. Yeh, eds.: Springer-Verlag, Berlin, p. 137–162.
- Bohling, G. C., 2008, Review of "Petroleum Geostatistics" by Jef Caers: Computers & Geosciences, v. 34, no. 3, p. 299–300.
- Buddemeier, R. W., Jokiel, P. L., Zimmerman, K. M., Lane, D. R., Carey, J. M., Bohling, G. C., and Martinich, J. A., 2008, A modeling tool to evaluate regional coral reef responses to changes in climate and ocean chemistry: Limnology and Oceanography—Methods, v. 6, p. 395–411.
- Buddemeier, R. W., Smith, S. V., Swaney, D. P., Crossland, C. J., and Maxwell, B. A., 2008, Coastal typology: An integrative "neutral" technique for coastal zone characterization and analysis: Estuarine Coastal and Shelf Science, v. 77, issue 2, p. 197–205.
- Butler, J. J., Jr., Zhan, X., and Zlotnik, V. A., 2008, Reply to Comment on "Pumping-induced drawdown and stream depletion in a leaky aquifer system": Ground Water, v. 46, no. 4, p. 530–531.
- Cooper, M. R., and Miller, R. D., 2008, Introduction to this special section—Near-surface geophysics: The Leading Edge, v. 27, no. 11, p. 1,423.
- Cooper, M. R., and Miller, R. D., 2008, Introduction to this special section—Resolution: The Leading Edge, v. 27, no. 5, p. 635.
- Dietrich, P., Butler, J. J., Jr., and K. Faiss, D., 2008, A rapid method for hydraulic profiling in unconsolidated formations: Ground Water, v. 46, no. 2, p. 323–328.
- Doveton, J. H., 2008, Application of Markov mean first-passage time statistics to sedimentary successions—A Pennsylvanian case-study from the Illinois basin; *in*, Progress in Geomathematics, G. Bonham-Carter and Q. Cheng, eds.: Springer, p. 435–443.
- Doveton, J. H., 2008, Enhanced formation evaluation based on forward-modelling of resistivity and porosity logs from flow-unit architecture simulations of carbonate and clastic reservoirs: SPWLA 49<sup>th</sup> Annual Logging Symposium Transactions, Paper NNN, 5 p.
- Gochioco, L. M., and Miller, R. D., 2008, Introduction to this special section—Mining geophysics: The Leading Edge, v. 27, no. 1, p. 45.
- Goldberg, P., and Mandel, R. D., 2008, Caves and rockshelters; *in*, Encyclopedia of Archaeology, vol. 2, D. M. Pearsall, ed.: New York, Academic Press, p. 966–974.
- Guinotte J. M., and Buddemeier, R. W., 2008, Comment on "Modelling susceptibility of coral reefs to environmental stress-using remote sensing data and GIS models", authors Maina, Venus, McClanahan, and Ateuwerhan: Ecological Modelling, v. 218, issue 3–4, p. 400–402.
- Ivanov, J., Miller, R. D., Markiewicz, R. D., and Xia, J., 2008, Refraction tomography mapping of near-surface dipping layers using landstreamer data at East Canyon Dam, Utah [exp. abs.]: Annual Meeting of the Society of Exploration Geophysicists, Las Vegas, NV, November 9–12, p. 3,229–3,233.

- Ivanov, J., Miller, R. D., and Tsoflis, G. P., 2008, Some practical aspects of MASW analysis and processing: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2008), Philadelphia, PA, April 6–10, p. 1,186–1,198.
- Kansas Geological Survey, 2008, Surficial geology of Kansas: Kansas Geological Survey, Map Series M-118, 1 sheet, scale 1:500,000.
- Lane, J. W., Jr., Ivanov, J., Day–Lewis, F. D., Clemens, D., Patev, R., and Miller, R. D., 2008, Levee evaluation using MASW—Preliminary findings from the Citrus Lakefront Levee, New Orleans, Louisiana: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2008), Philadelphia, PA, April 6–10, p. 703–712.
- Liu, G., Bohling, G. C., and Butler, Jr., J. J., 2008, Simulation assessment of the direct-push permeameter for characterizing vertical variations in hydraulic conductivity: *Water Resources Research*, v. 44, no. 2, p. 10.
- Liu, G., Chen, Y., and Zhang, D., 2008, Investigation of flow and transport processes at the MADE site using ensemble Kalman filter: *Advances in Water Resources*, v. 31, no. 7, p. 975–986.
- Luo, Y., He, C., Sophocleous, M., Yin, Z., Hongrui, R. and Ouyang, Z., 2008, Assessment of crop growth and soil water modules in SWAT2000 using extensive field experiment data in the irrigation district of the Yellow River basin: *Journal of Hydrology*, v. 352, no. 1–2, p. 139–156.
- Luo, Y., Xia, J., Liu, J., and Liu, Q., 2008, Joint inversion of fundamental and higher mode Rayleigh waves: *Chinese Journal of Geophysics—Chinese Edition*, v. 51, no. 1, p. 242–249.
- Luo, Y., Xia, J., Liu, J., Xu, Y., and Liu, Q., 2008, Generation of a pseudo-2D shear-wave velocity section by inversion of a series of 1D dispersion curves: *Journal of Applied Geophysics*, v. 64, no. 3–4, p. 115–124.
- Luo, Y., Xia, J., Miller, R. D., Liu, J., Xu, Y., and Liu, Q., 2008, Rayleigh-wave dispersive energy imaging and mode separating by high-resolution linear Radon transform: *Proceedings of the 2008 International Conference on Environmental and Engineering Geophysics (ICEEG)*, June 15–20, Wuhan, China, p. 81–86.
- Luo, Y., Xia, J., Miller, R. D., Liu, J., Xu, Y., and Liu, Q., 2008, Application of high-resolution linear Radon transform for Rayleigh-wave dispersive energy imaging and mode separating [exp. abs.]: *Annual Meeting of the Society of Exploration Geophysicists*, Las Vegas, NV, November 9–12, p. 1,233–1,237.
- Luo, Y., Xia, J., Miller, R. D., Liu, J., Xu, Y., and Liu, Q., 2008, Rayleigh-wave dispersive energy imaging by high-resolution linear radon transform: *Symposium on the Application of Geophysics to Environmental and Engineering Problems (SAGEEP)*, *Annual Meeting of the Environmental and Engineering Geophysical Society (EEGS)*, April 6–10, 2008, Philadelphia, PA, p. 1,267–1,275.
- Luo, Y., Xia, J., Miller, R. D., Xu, Y., Liu, J., and Liu, Q., 2008, Rayleigh-wave dispersive energy imaging by high-resolution linear Radon transform: *Pure and Applied Geophysics*, v. 165, no. 5, p. 903–922.
- Luo, Y., Xia, J., Xu, Y., and Liu, Q., 2008, Rayleigh-wave dispersive energy imaging and mode separating by high-resolution linear Radon transform: *The Leading Edge*, v. 27, no. 11, p. 1,536–1,542.
- Macpherson, G. L., Roberts, J. A., Blair, J. M., Townsend, M. A., Fowle, D. A., and Beisner, K. R., 2008, Increasing shallow groundwater CO<sub>2</sub> and limestone weathering, Konza Prairie, USA: *Geochimica et Cosmochimica Acta*, v. 72, issue 23, p. 5,581–5,599.
- Mandel, R. D., 2008, Buried Paleoindian-age landscapes in stream valleys of the Central Plains, USA: *Geomorphology*, v. 101, p. 342–361.
- Mandel, R. D., 2008, Buried Paleoindian-age landscapes in stream valleys of the Central Plains, USA; *in*, *Fluvial Deposits and Environmental History: Geoarchaeology, Paleohydrology, and Adjustments to Environmental Change*, P. F. Hudson, K. W. Butzer, and T. Beach, eds.: Elsevier, Amsterdam, p. 342–361.
- Mayer, L. M., Miller, R. D., Ivanov, J., Weis, T., and Anderson, B., 2008, Near-surface seismic methods to enhance reflection events in high desert region: *Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2008)*, Philadelphia, PA, April 6–10, p. 626–632.
- McClanahan, T. R., Buddemeier, R. W., Hoegh–Guldberg, O., and Sammarco, P., 2008, Projecting the current trajectory for coral reefs; *in*, *Aquatic Ecosystems—Trends and Global Prospects*, N. V. C. Polunin, ed.: Cambridge University Press, Cambridge, UK, p. 242–260.
- Miller, R. D., Walters, S. L., Xia, J., Ivanov, J., and McKenna, J. R., 2008, Seismic tunnel detection using the full wavefield: *Proceedings of the 2008 Meeting of the MSS Specialty Group on Battlefield Acoustic and Seismic Sensing*, August 19–21, Laurel, MD, 17 p. Published on CD.
- Miller, R. D., and Xia, J., 2008, High-resolution seismic reflection to image hydrogeologic sequences [exp. abs.]: *Annual Meeting of the Society of Exploration Geophysicists*, Las Vegas, NV, November 9–12, p. 1,208–1,212.
- Miller, R. D., Xia, J., Henthorne, R., and Croxton, N., 2008, Seismic reflection characteristics of subsidence affecting transportation: *Proceedings of the Highway Geophysics NDE Conference*, Charlotte, NC, December 1–4, p. 351–357.

- Miller, R. D., Xia, J., Park, C. B., and Ivanov, J. M., 2008, Back Page—The history of MASW: The Leading Edge, v. 27, no. 4, p. 568.
- Newell, K. D., 2008, Trends in composition of Morrowan gases in southwestern Kansas; *in*, Morrow and Springer in the southern midcontinent, 2005 Symposium, R. D. Andrews, ed.: Oklahoma Geological Survey, Circular 111, p. 49–61.
- Park, C. B., and Miller, R. D., 2008, Roadside passive multichannel analysis of surface waves (MASW): Journal of Environmental and Engineering Geophysics, v. 13, no. 1, p. 1–11.
- Robinson, D. A., Binley, A., Crook, N., Day–Lewis, F. D., Ferré, T. P. A., Grauch, V. J. S., Knight, R., Knoll, M., Lakshmi, V., Miller, R., Nyquist, J., Pellerin, L., Singha, K., and Slater, L., 2008, Advancing process-based watershed hydrological research using near-surface geophysics—A vision for, and review of, electrical and magnetic geophysical methods: Hydrological Processes, v. 22, p. 3,604–3,635.
- Sarg, R., Franseen, E., and Rankey, G., 2008, NSF Workshop—Community sedimentary model for carbonate systems (white paper): The Sedimentary Record (SEPM), v. 6, no. 3, p. 11.
- Sawin, R. S., 2008, Surficial geology of the Tallgrass Prairie National Preserve, Chase County, Kansas: Kansas Geological Survey, M–119A, scale 1:12,000, 1 sheet.
- Sawin, R. S., and Buchanan, R. C., 2008, Water-bearing units of the Tallgrass Prairie National Preserve, Chase County, Kansas: Kansas Geological Survey, M–119B, scale 1:12,000, 1 sheet.
- Sawin, R. S., Franseen, E. K., West, R. R., Ludvigson, G. A., and Watney, W. L., 2008, Clarification and changes in Permian stratigraphic nomenclature in Kansas: Kansas Geological Survey, Bulletin 254, part 2, 4 p. (<http://www.kgs.ku.edu/Current/2008/Sawin/index.html>)
- Smith, J. J., 2008, Review of “Why Size Matters: From Bacteria to Blue Whales,” by John Tyler Bonner: Palaios, DOI: 10.2110/palo.2008.BR29.
- Smith, J. J., and Hasiotis, S. T., 2008, Traces and burrowing behaviors of the cicada nymph *Cicadetta calliope*—Neoichnology and paleoecological significance of extant soil-dwelling insects: Palaios, v. 23, p. 503–513.
- Smith, J. J., Hasiotis, S. T., Kraus, M. J., and Woody, D. T., 2008, *Naktodemasis bowni*—New ichnogenus and ichnospecies for adhesive meniscate burrows (AMB), and paleoenvironmental implications, Paleogene Willwood Formation, Bighorn Basin, Wyoming: Journal of Paleontology, v. 82, p. 267–278.
- Smith, J. J., Hasiotis, S. T., Kraus, M. J., and Woody, D. T., 2008, Relationship of floodplain ichnocoenoses to paleopedology, paleohydrology, and paleoclimate in the Willwood Formation, Polecat Bench, Bighorn Basin, Wyoming, during the Paleocene–Eocene thermal maximum: Palaios, v. 23, p. 683–699.
- Smith, J. J., Hasiotis, S. T., Woody, D. T., and Kraus, M. J., 2008, Paleoclimatic implications of crayfish-mediated prismatic structures in paleosols of the Paleogene Willwood Formation, Bighorn Basin, Wyoming, U.S.A: Journal of Sedimentary Research, v. 78, p. 323–334.
- Sophocleous, M. A., Townsend, M. A., Vocasek, F., and Liwang, M. A., 2008, Treated wastewater and nitrate transport beneath irrigated fields—A Kansas water reuse project: 2008 Joint Meeting of The Geological Society of America, Soil Science Society of America, American Society of Agronomy, Crop Science Society of America, Gulf Coast Association of Geological Societies with the Gulf Coast Section of SEPM, Paper No. 64–3, [http://gsa.confex.com/gsa/2008AM/finalprogram/abstract\\_144113.htm](http://gsa.confex.com/gsa/2008AM/finalprogram/abstract_144113.htm).
- Sophocleous, M. A., Townsend, M. A., Vocasek, F., Ma, L., KC, Ashok, 2009, Soil nitrogen balance under wastewater management—Field measurements and simulation results: Journal of Environmental Quality v.38, no. 3, p. 1,286–1,301.
- Townsend, M. A., Nelson, N. O., Goard, D., Presley, D., 2008, Reusing dredged sediment—Geochemical and ecological considerations; *in*, Sedimentation in Our Reservoirs—Causes and Solutions: Kansas State University, June 2008, Contribution No. 08–250–S from the Kansas Agricultural Experiment Station, p. 103–146, [http://www.oznet.ksu.edu/library/h20ql2/KWRI\\_Book.pdf](http://www.oznet.ksu.edu/library/h20ql2/KWRI_Book.pdf).
- Tsoflias, G. P., Ivanov, J., Anandkrishnan, S., and Miller, R. D., 2008, Use of active source seismic surface waves in glaciology: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2008), Philadelphia, PA, April 6–10, p. 1,240–1,243.
- Ufnar, D. F., Ludvigson, G. A., González, L. A., and Gröcke, D. R., 2008, Precipitation rates and atmospheric heat transport during the Cenomanian greenhouse warming in North America—Estimates from a stable isotope mass-balance model: Palaeogeography, Palaeoclimatology, Palaeoecology, v. 266, p. 28–38.
- Watney, W. L., Bhattacharya, S., Byrnes, A., Doveton, J., and Victorine, J., 2008, Geo-engineering modeling of Morrow/Atoka incised-valley-fill deposits using web-based freeware; *in*, Morrow and Springer in the southern midcontinent, 2005 Symposium, R. D. Andrews, ed.: Oklahoma Geological Survey, Circular 111, p. 121–135.
- Watney, W. L., Franseen, E. K., Byrnes, A. P., and Nissen, S., 2008, Evaluating structural controls on the formation and properties of Carboniferous carbonate reservoirs in the northern midcontinent, U.S.A.; *in*, Controls on

- Carbonate Platform and Reef Development, J. Lukasik and J. A. Simo, eds.: SEPM Special Publication No. 89, p. 125–146.
- West, R. R., Sawin, R. S., and Brady, L. L., 2008, Surficial geology of Crawford County, Kansas: Kansas Geological Survey, Map M-120, scale 1:50,000.
- Xia, J., Miller, R. D., and Xu, Y., 2008, Data-resolution matrix and model-resolution matrix for Rayleigh-wave inversion using a damped least-square method: *Pure and Applied Geophysics*, v. 165, p. 1,227–1,248.
- Xia, J., Miller, R. D., and Xu, Y., 2008, A trade-off between model resolution and variance with selected Rayleigh-wave data [exp. abs.]: Annual Meeting of the Society of Exploration Geophysicists, Las Vegas, NV, November 9–12, p. 1,293–1,297.
- Xia, J., Miller, R. D., and Xu, Y., 2008, Data resolution matrix and model resolution matrix of Rayleigh-wave inversion using a damped least-square method: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2008), Philadelphia, PA, April 6–10, p. 1,251–1,266. [Selected best of SAGEEP 2008.]
- Xia, J., and Tian, G., 2008, Foreword to the special section—China near-surface geophysics: *Near Surface Geophysics*, v. 6, p. 147.
- Xia, J., Xu, Y., and Miller, R. D., 2008, Improvement and assessment of a damped least-square solution of Rayleigh-wave inversion (keynote presentation): Proceedings of the 2008 International Conference on Environmental and Engineering Geophysics (ICEEG), June 15–20, Wuhan, China, p. 20–28.
- Xu, Y., Xia, J., and Chen, C., eds., 2008, Near-surface geophysics and human activity: Proceedings of the 3<sup>rd</sup> International Conference on Environmental and Engineering Geophysics (ICEEG), June 15–20, 2008, Wuhan, China, Science Press USA Inc., 653 p.
- Xu, Y., Xia, J., Luo, Y., and Miller, R. D., 2008, Amplitude effects in phase velocity estimation from shot gather: Proceedings of the 2008 International Conference on Environmental and Engineering Geophysics (ICEEG), June 15–20, Wuhan, China, p. 75–80.

## **Nonrefereed/Unpublished Papers**

- Bennett, B. C., and Brohammer, M., 2008, 2008 water level data acquisition statistics: Kansas Geological Survey, Open-file Report 2008–16, 17 p.; <http://www.kgs.ku.edu/Hydro/Levels/index.html>
- Bhattacharya, S., Newell, K. D., Watney, W. L., and Sigel, M., 2008, Low-cost plant upgrades marginal gas fields: *E&P*, v. 81, no. 8, p. 102–103.
- Bhattacharya, S., Newell, K. D., and Watney, W. L., 2008, Plant flow process and data analysis to optimize low-BTU gas upgradation using a PSA-based micro-scale plant at Elmdale field, Chase County, Kansas: Kansas Geological Survey, Open-file Report 2008–33, 23 p.
- Bhattacharya, S., Watney, W. L., and Newell, K. D., 2008, Kansas low-BTU gas compositions and production potential at Elmdale field, Chase County, Kansas: Kansas Geological Survey, Open-file Report 2008–34, 67 p.
- Bozell, J. R., and Mandel, R. D., 2008, Phase 2 Cultural resources investigation at the Big Village of the Omaha (25DK5) in response to the proposed Northern Natural Gas SSC A-Line Modification Project, Dakota County, Nebraska: Archeology Laboratory, Augustana College, Sioux Falls, SD, Archeological Contract Series No. 225.
- Bozell, J. R., Buhta, A. A., Mandel, R. D., Holen, S. R., and Lueck, E. J., 2008, An archeological and geomorphic survey of select lands in the Broadwater West and Blue Creek study areas, Morrill and Garden counties, Nebraska: Archeology Laboratory, Augustana College, Sioux Falls, SD, Archeological Contract Series No. 226.
- Buchanan, R., 2008, “Raymond C. Moore Portrait Sketches”; *in*, Association of American State Geologists Centennial History—1908–2008, J. C. Cobb, ed.: Association of American State Geologists, p. 193–196.
- Buchanan, R., and Carr, T. R., 2008, Geologic sequestration of carbon dioxide in Kansas: Kansas Geological Survey, Public Information Circular 27, December, 4 p.
- Butler, J. J., Jr., Kluitenberg, G. J., and Whitemore, D. O., 2008, Ground water assessment in association with salt cedar control—Report on phase two activities: Kansas Geological Survey, Open-file Report 2008–13, 44 p.
- Carr, T. R., Iqbal, A., Callaghan, N., Adkins-Heljeson, D., Look, K., Saving, S., and Nelson, K., 2008, A national look at carbon capture and storage—National carbon sequestration database and geographical information system: *Green House Gas Technology* 9, *Energy Procedia*, 7 p.; [https://www4.eventsinteractive.com/iea/viewpdf.asp?id=270005&file=\\serenity\EP11%24\Eventwin\Pool\office27\docs\pdf\ghgt\\_9Final00951.pdf](https://www4.eventsinteractive.com/iea/viewpdf.asp?id=270005&file=\\serenity\EP11%24\Eventwin\Pool\office27\docs\pdf\ghgt_9Final00951.pdf)
- Dillon, J. S., and Mandel, R. D., 2008, The Honey Creek Member—A new Holocene alluvial stratigraphic unit in the Midwest: *Journal of the Iowa Academy of Science*, v. 113, p. 57–68.

- Gagnon, G. F., 2008, LEO Version 7.0 user manual: Kansas Geological Survey, Open-file Report 2008–24, 20 p.; online at [http://www.kgs.ku.edu/software/LEO/LEO\\_07\\_UserManual\\_OFR\\_2008-24.pdf](http://www.kgs.ku.edu/software/LEO/LEO_07_UserManual_OFR_2008-24.pdf)
- Haj, A., Murphy, L. and Smith, J. J., 2008, Laboratory procedures and worksheets—Decarbonation for ground sediment/soil samples: Kansas Geological Survey, Decarbonation Laboratory, 4 p.
- Hajic, E. R., and Mandel, R. D., 2008, Geoarchaeological testing of the proposed Gulf Crossing Project Area in Texas: Report submitted by the Kansas Geological Survey to S. Christopher Goodwin & Associates, Inc., Lawrence, Kansas.
- Joeckel, R. M., Ludvigson, G. A., Macfarlane, P. A., and Grocke, D. R., 2008, Field Trip 2—Fluvial-estuarine deposition in the mid-Cretaceous Dakota Formation, Kansas and Nebraska: Field Trip Guidebook for the 41st Annual Meetings of the South-Central and North-Central Sectional Meeting of the Geological Society of America, University of Kansas, Lawrence, KS; Kansas Geological Survey, Open file Report 2008–2, 30 p.; online at [http://www.kgs.ku.edu/Publications/OFR/2008/OFR08\\_2/KGS\\_OF2008-2.pdf](http://www.kgs.ku.edu/Publications/OFR/2008/OFR08_2/KGS_OF2008-2.pdf).
- Johnson, D. L., Mandel, R. D., and Frederick, C. D., 2008, The origin of the sandy mantle and Mima Mounds of the East Texas Gulf coastal plain—Geomorphological, pedological, and geoarchaeological perspectives: 2008 Joint Meeting of Geological Society of America, Soil Science Society of America, and Gulf Coast Association of Geological Societies, Houston, TX, Field Trip Guidebook.
- KC, A., and Sophocleous, M., 2008, Recent MODFLOW developments in groundwater modeling: Kansas Geological Survey, Open-file Report 2009–4, 139 p.
- Lyle, S. A., Buchanan, R. C., Evans, C. S., and Robert S. Sawin, R. S., 2008, Field Guide, 2008 Field Conference, Smoky Hill and Republican River Valleys—Water, Wind, and Economic Development: Kansas Geological Survey, Open-file Report 2008–7, 2008.
- Macfarlane, P. A., 2008, Responses to review for/by State and Federal agencies from the Kansas Geological Survey, including agency review transmittal forms, and environmental assessment comments for calendar year 2007, Section F: Kansas Geological Survey, Open-file Report 2008–7.
- Mandel, R. D., 2008, Geomorphological investigation; *in*, An Archeological and Geomorphic Survey of Select Lands in the Broadwater West and Blue Creek Study Areas, Morrill and Garden Counties, Nebraska, J. R. Bozell, A. A. Buhta, R. D. Mandel, S. R. Holen, and E. J. Lueck, eds.: Archeology Laboratory, Augustana College, Sioux Falls, SD, Archeological Contract Series No. 226, p. 210–224.
- McCauley, J. R., 2008, Preliminary geologic field maps of Dickinson County, Kansas: Kansas Geological Survey, Open-file Report 2008–21, 19 pls.
- McCauley, J. R., 2008, Preliminary geologic field maps for portions of Miami County, Kansas: Kansas Geological Survey, Open-file Report 2008–22, 5 pls.
- Miller, R. D., 2008, High-resolution seismic-reflection investigation of the Rayl subsidence feature on Kent Road in Reno County, Kansas: Kansas Geological Survey, Open-file Report 2008–35, 28 p.
- Miller, R. D., and Steeples, D. W., 2008, High-resolution seismic-reflection imaging of I–70 sinkholes, Russell County, Kansas: Kansas Geological Survey, Open-file Report 2008–18, 7 p. + appendices.
- Miller, R. D., Ivanov, J., Sloan, S. D., Walters, S. L., Leitner, B., Rech, A., Wedel, B. A., Wedel, A. R., Anderson, J. M., Metheny, O. M., and Schwarzer, J. C., 2008, Shear-wave study above Mosaic’s legacy salt jugs in Hutchinson, Kansas: Kansas Geological Survey, Open-file Report 2009–3.
- Miller, R. D., Walters, S. L., Xia, J., Ivanov, J., and McKenna, J. R., 2008, Seismic tunnel detection using the full wavefield: Proceedings of the 2008 Meeting of the MSS Specialty Group on Battlefield Acoustic and Seismic Sensing, August 19–21, Laurel, MD, 17 p. Published on CD.
- Miller, R. D., Xia, J., Walters, S. L., Anderson, J. M., Wedel, B. A., and Wedel, A. R., 2008, Underwater full wavefield seismic investigation of a stilling basin at Hardin Dam #3 on the Arkansas River: Kansas Geological Survey, Open-file Report 2009–6.
- Newell, K. D., 2008, Analysis of Marmaton and Cherokee group samples for gas content, Layne–Christensen #16–1 Pierce, NE SE SW sec. 16, T. 31 S., R. 17 E., Montgomery County, Kansas: Kansas Geological Survey, Open-file Report 2008–25; [http://www.kgs.ku.edu/PRS/publication/2008/OFR08\\_25/index.html](http://www.kgs.ku.edu/PRS/publication/2008/OFR08_25/index.html).
- Newell, K. D., 2008, Cherokee Group cuttings samples for gas content—Dart Cherokee Basin Operating Company #A3–36 Fields well (sec. 36, T. 34 S., R. 14 E.), Montgomery County, Kansas: Kansas Geological Survey, Open-file Report 2008–26, 23 p.
- Newell, K. D., 2008, Analysis of Cherokee Group cuttings samples for gas content—KLM Exploration #7 Dunn well (sec. 33, T. 8 S., R. 20 E.), Jefferson County, Kansas: Kansas Geological Survey, Open-file Report 2008–27, 17 p.

- Newell, K. D., 2008, Analysis of Cherokee Group core samples for gas content—Layne–Christensen #13–28 Beurskens well (sec. 6, T. 31 S., R. 16 E.), Montgomery County, Kansas: Kansas Geological Survey, Open-file Report 2008–28, 75 p.
- Newell, K. D., 2008, Analysis of Cherokee Group core samples for gas content—Layne–Christensen #16–1 Pierce well (sec. 16, T. 31 S., R. 17 E.), Montgomery County, Kansas: Kansas Geological Survey, Open-file Report 2008–29, 48 p.
- Newell, K. D., in proprietary period until 2009, Analysis of Cherokee Group cuttings samples for gas content—Dart Cherokee Basin Operating Company #D1–30–35 Kincaid Trust well (sec. 30, T. 34 S., R. 14 E.), Montgomery County, Kansas: Kansas Geological Survey, Open-file Report, 29 p.
- Newell, K. D., in proprietary period until 2009, Analysis of Cherokee Group cuttings samples for gas content—River Gas Chanute #C1–22 Westerberg well (sec. 22, T. 26 S., R. 20 E.), Allen County, Kansas: Kansas Geological Survey, Open-file Report, 29 p.
- Newell, K. D., and Mandel, R. D., 2008, Preliminary geologic field maps and stratigraphic column, McPherson County, Kansas: Kansas Geological Survey, Open-file Report 2008–36, 1 p., 11 pls.
- Nissen, S. E., Doveton, J. H., and Watney, W. L., 2008, Petrophysical and geophysical characterization of karst in a Permian San Andres reservoir, Waddell field, west Texas: Kansas Geological Survey, Open-file Report 2008–5; [http://www.kgs.ku.edu/PRS/publication/2008/OFR08\\_5/index.html](http://www.kgs.ku.edu/PRS/publication/2008/OFR08_5/index.html)
- Sawin, R. S., 2008, Methodology and data used to construct the surficial geology (M–119A) and water-bearing units (M–119B) maps of the Tallgrass Prairie National Preserve, Chase County, Kansas: Kansas Geological Survey, Open-file Report 2008–09, 15 p.
- Sawin, R. S., 2008, Bedrock associated with the ranch house at the Tallgrass Prairie National Preserve, Chase County, Kansas: Kansas Geological Survey, Open-file Report 2008–10, 5 p.
- Sawin, R., and Buchanan, R., [2000] 2008, Water quality of selected springs—Tallgrass Prairie National Preserve, Chase County, Kansas: Kansas Geological Survey, Open-file Report 2000–01 (revised July 2008), 31 p.
- Sawin, R., and Buchanan, R., [2001] 2008, Springs inventory—Tallgrass Prairie National Preserve, Chase County, Kansas: Kansas Geological Survey, Open-file Report 2001–40 (revised July 2008), 17 p.
- Sawin, R. S., and McCauley, J. R., [2004] 2008, Geologic map of the historic ranch headquarters and school house areas, Tallgrass Prairie National Preserve, Chase County, Kansas: Kansas Geological Survey, Open-file Report 2004–34 (revised July 2008), 9 p., 1 map.
- Sawin, R. S., and West, R. R., 2008, Lithology and paleontology of the stratigraphic units cropping out at the Tallgrass Prairie National Preserve, Chase County, Kansas: Kansas Geological Survey, Open-file Report 2008–15, 7 p.
- Sophocleous, M. A., Townsend, M. A., Vocasek, F., Ma, L., and KC, A., 2008, Treated wastewater and nitrate transport beneath irrigated fields near Dodge City, Kansas—Final Report to KWRI: Kansas Geological Survey, Open-file Report 2008–12, 53 p.
- Townsend—Responses to review for/by State and Federal agencies from the Kansas Geological Survey, including agency review transmittal forms, and environmental assessment comments for calendar year 2007: Kansas Geological Survey, Open-file Report 2008–7, Section E: Responses prepared by Margaret A. Townsend.
- Townsend, M. A., 2008, Use of the nitrogen-15 natural abundance method to identify potential sources of nitrate-N contamination in ground water utilized by Rural Water District #7, Leavenworth County, Kansas—Final report for Rural Water District #7 Bonner Springs, Kansas: Kansas Geological Survey, Open-file Report 2008–31, 25 p.
- Watney, W. L., Boardman, D., Suneson, N., Puckette, J., Thompson, T., Doveton, J. H., Franseen, E. K., Victorine, J., Stalder, K., and Walton, R., 2008, Preliminary high-resolution stratigraphic analysis of the Caney and Woodford Shales in a continuous shallow corehole (KGS–OGS Current #1) from the Lawrence uplift in Pontotoc County, Oklahoma (poster): Oklahoma Geological Survey, Oklahoma Gas Shales Conference, October 22, 2008, Midwest City, OK.
- Watney, W. L., Franseen, E. K., Doveton, J. H., Thompson, T. L., Boardman, D. R., Rasbury, E. T., Newell, K. D., Victorine, J., Suneson, N. H., and Starbuck, E., 2008, High-resolution sequence stratigraphic and chronostratigraphic investigations of the lower shelf and basinal lithofacies of the Mississippian subsystem in the southern midcontinent U.S.A.: Kansas Geological Survey, Open-file Report 2008–6, <http://www.kgs.ku.edu/PRS/publication/2008/ofr2008-6/index.html>.
- West, R. R., and Sawin, R. S., 2008, Data control points used to construct the surficial geology map (M–120) of Crawford County, Kansas: Kansas Geological Survey, Open-file Report 2008–19, 76 p.
- West, R. R., and Sawin, R. S., 2008, Field geology maps, Morris County, Kansas (1:24,000 quadrangles—Alta Vista, Dwight, Skiddy, White City, and Woodbine quadrangles): Kansas Geological Survey, Open-file Report 2008–08, 44 p., 5 maps (3.8 quads equivalent).



- Whittemore, D. O., 2008, Review and analysis of chemical data for the Maize ground-water pit/detention pond for stormwater runoff storage: Kansas Geological Survey, Open-file Report 2008–11, 15 p. and appendices.
- Whittemore, D. O., 2008, Water-quality effects of stormwater runoff into sand pits on ground water in Sedgwick County, Kansas—Phase II—Kingston Cove and Pine Bay pits, and comparison with Phase I results: Kansas Geological Survey, Open-file Report 2008–4, 63 p. and CD.
- Whittemore, D. O., 2008, Geochemical identification of saltwater source affecting water at the Weber study site in Russell County, Kansas: Kansas Geological Survey, Open-file Report 2008–30, 4 p.
- Wilson, B. B., Liu, G., Whittemore, D. O., and Butler, J. J., Jr., 2008, Smoky Hill ground-water model: Kansas Geological Survey, Open-file Report 2008–20, 99 p.
- Wilson, B. B., Liu, G., Whittemore, D. O., and Butler, J. J., Jr., 2008, Smoky Hill River model scenario—Impacts of ground-water pumping and stream diversions on streamflow: Kansas Geological Survey, Open-file Report 2009–20, 15 p.
- Young, D. P., Buddemeier, R. W., Butler, J. J., Jr., Jin, W., Whittemore, D. O., Reboulet, E., and Wilson, B. B., 2008, High Plains aquifer calibration monitoring well program—Year 2 progress report: Kansas Geological Survey, Open-file Report 2008–29, 54 p.; online at [http://www.kgs.ku.edu/Hydro/Publications/2008/OFR08\\_29/index.html](http://www.kgs.ku.edu/Hydro/Publications/2008/OFR08_29/index.html).

## **Computer Software**

- Bohling, G., and Doveton, J.—Small County—An Interactive Exercise in the Geological Exploration for Petroleum Reservoirs for students at [www.kgs.ku.edu/Hydro/SmallCounty/](http://www.kgs.ku.edu/Hydro/SmallCounty/)
- Gagnon, G.—A legal description to geographic coordinate conversion program for Kansas, <http://www.kgs.ku.edu/software/LEO/>
- Killion, M.—Research New Map Viewer Technologies; Kansas Oil and Gas Map Viewer; Oil and Gas Wells Layer; Kansas Historical Resources Inventory Project (KHRI—completed on the DASC grant)
- Wilson, B.—South-central Kansas Bedrock Enhancement (KAN44980)
- Wilson, B.—Assist with the High Plains Aquifer Calibration Monitoring Well Program
- Wilson, B.—Assist with work on the Southwest Kansas Groundwater Management District #3 Numerical Model
- Wilson, B.—Customized ArcGIS tool set for water-right prioritization, allocation reductions, and safe yield targets for GMD#3
- Wilson, B.—Matched and integrated data linkage between WIZARD and the KDA-DWR well network over the Ozark aquifer in south-east Kansas

## **Abstracts**

- Banz, B., Bohling, G. C., and Doveton, J. H., 2008, Small County—Development of a virtual environment for instruction in geological characterization of petroleum reservoirs: EOS Transactions of the American Geophysical Union, Fall Meeting Supplement, Abstract ED53A–0579.
- Bhattacharya, S., Newell, K. D., and Carr, T. R., 2008, The economic interplay between CO<sub>2</sub> sequestration and enhanced CH<sub>4</sub> production from coal beds—Two scenarios from eastern Kansas (abs.): American Association of Petroleum Geologists, 2008 Annual Convention & Exhibition, San Antonio, TX, Abstracts Volume, p. 17.
- Boardman, D. R., Puckette, J., and Watney, W. L., 2008, High resolution stratigraphy of the Upper Mississippian Caney Shale and biostratigraphic correlation with the Barnett Shale of the Fort Worth basin and Fayetteville Shale of Arkansas: Oklahoma Geological Survey, Oklahoma Gas Shales Conference, October 22, Oklahoma City, OK.
- Bohling, G. C., Liu, G., and Butler, J. J., Jr., The direct-push permeameter for high-resolution characterization of spatial variations in hydraulic conductivity—Optimal zonation analysis (abs.): Eos, Transactions of the American Geophysical Union, v. 89, no. 53, Fall Meeting Supplement, Abstract H33H–08.
- Brady, L. L., 2008, Industrial minerals—mines, quarries, and general resources in Kansas [abs.]: 44<sup>th</sup> Forum on the Geology of Industrial Minerals, Midwest City, OK, May 12, 2008, p. 4
- Buddemeier, R. W., 2008, Coral reef response to climate change—Addressing complex problems with a simple model (abs.): 11th International Coral Reef Symposium, Fort Lauderdale, FL; online abstract at [http://www.nova.edu/ncri/11icrs/abstract\\_files/icrs2008-001681.pdf#zoom=100](http://www.nova.edu/ncri/11icrs/abstract_files/icrs2008-001681.pdf#zoom=100).

- Butler, J. J., Jr., Jin, W., Mohammed, G. A., Kluitenberg, G. J., Whittemore, D. O., and Reboulet, E. C., 2008, Site characterization using well responses to natural stimuli—Examples from the Larned Research Site (abs.): *Eos, Transactions of the American Geophysical Union*, v. 89, no. 53, Fall Meeting Supplement, Abstract H32A-01.
- Butler, J. J., Jr., Kluitenberg, G. J., and Whittemore, D. O., 2008, What the heck is a phreatophyte? A field investigation of ecohydrologic processes in stream-aquifer systems (abs.): XXXVI International Association of Hydrogeologists Congress, Abstracts with Program, p. 313.
- Dvoretzky, R. A., Franseen, E. K., Goldstein, R. H., and Byrnes, A. P., 2008, 3-D reservoir-analog characterization of focused-flow, deepwater carbonate deposits, Upper Miocene Agua Amarga basin, SE Spain: American Association of Petroleum Geologists, 2008 Annual Convention and Exhibition, Abstracts Volume, p. 51.
- Fairchild, J. M., Franseen, E. K., and Goldstein, R. H., 2008, Subtle sea-level and paleotopographic controls on heterogeneity of an oolite-bearing system: American Association of Petroleum Geologists, 2008 Annual Convention and Exhibition, Abstracts Volume, p. 57.
- Goldberg, P., and Mandel, R. D., 2008, Paleopedology of a multi-component Paleoindian site (Big Eddy) in southwest Missouri, USA: Joint Annual Meeting of the Geological Society of America and Soil Science Society of America, Houston, TX, October 2008.
- González, L. A., and Ludvigson, G. A., 2008, Pedogenic siderite as a tool for reconstructing paleoprecipitation—A decade of research on ancient hydrologic cycles and a new research frontier for hydromorphic soil systems: Invited presentation for Pardee Keynote Symposium 2, Geological Society of America, Abstracts with Programs, v. 40, no. 6, p. 277.
- Hasiotis, S. T., Counts, J. W., Kraus, M. J., and Smith, J. J., 2008, Revised ichnopedofabric indices that semiquantitatively analyzes the degree of pedogenic modification—Recognizing the effects of subaerial exposure on continental and marine deposits: Joint Meeting of The Geological Society of America, Soil Science Society of America, American Society of Agronomy, Crop Science Society of America, Gulf Coast Association of Geological Societies with the Gulf Coast Section of SEPM, Abstracts with Programs, v. 40, no. 6, p. 285.
- Hasiotis, S. T., Fairchild, J., Wallace, T., Counts, J. W., Devlin, J. F., Hembree, D. I., and Smith, J. J., 2008, Field and laboratory studies on the effects of bioturbation on porosity and permeability in the vadose zone in continental settings—How ichnopedologic fabric shapes and modifies aquitards, aquicludes, aquifers, and tomorrow's reservoirs and seals: Joint Meeting of The Geological Society of America, Soil Science Society of America, American Society of Agronomy, Crop Science Society of America, Gulf Coast Association of Geological Societies with the Gulf Coast Section of SEPM, Abstracts with Programs, v. 40, no. 6, p. 440.
- Hasiotis, S. T., Kraus, M. J., Smith, J. J., Platt, B. F., and Counts, J. W., 2008, Ichnopedologic fabric analysis—Developing a new method that incorporates ichnofabrics and pedofabrics in sedimentologic and stratigraphic analyses: American Association of Petroleum Geologists, Annual Convention, Abstracts Volume 17.
- Ivanov, J., Miller, R. D., and Tsoflis, G. P., 2008, Some practical aspects of MASW analysis and processing [abs.]: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2008), Philadelphia, PA, April 6–10.
- Ivanov, J., Tsoflis, G., Miller, R. D., and Xia, J., 2008, Practical aspects of MASW inversion using varying density: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP), Annual Meeting of the Environmental and Engineering Geophysical Society (EEGS), March 29–April 2, 2009, Fort Worth, TX, 1 p.
- Kluitenberg, G. J., Jin, W., and Butler, J. J., Jr., 2008, Spatial variations in evapotranspiration-driven fluctuations in the water table in and near vegetated riparian zones (abs.): Abstract Interactive Index, Annual Meeting, Ecological Society of America [CD-ROM].
- Kraus, M. J., Woody, D. T., Smith, J. J., and Hasiotis, S. T., 2008, Rapid paleoenvironmental change during the Paleocene–Eocene Thermal Maximum (PETM), Bighorn basin, WY: American Association of Petroleum Geologists, Annual Convention, Abstracts Volume 17.
- Lane, J.W. Jr., Ivanov, J., Day–Lewis, F. D., Clemens, D., Patev, R., and Miller, R. D., 2008, Levee evaluation using MASW—Preliminary findings from the Citrus Lakefront Levee, New Orleans, Louisiana [abs.]: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2008), Philadelphia, Pennsylvania, April 6–10.
- Lipinski, C. J., Goldstein, R. H., and Franseen, E. K., 2008, Paleotopographic controls on geometries and facies distribution in oolite-microbialite-reef sequences, Upper Miocene, SE Spain: American Association of Petroleum Geologists, 2008 Annual Convention and Exhibition Abstracts Volume, p. 122.
- Liu, G., Bohling, G., Butler, J. J., Jr., and Dietrich, P., 2008, The direct-push permeameter for high-resolution characterization of spatial variations in hydraulic conductivity—Tool design (abs.): CUAHSI, Biennial Colloquium on Hydrologic Science and Engineering Abstracts and Program.

- Liu, G., Bohling, G., Butler, J. J., Jr., Reboulet, E. C., and Dietrich, P., 2008, Modeling assessment of the direct-push permeameter for high-resolution characterization of spatial variations in hydraulic conductivity (abs.): 2008 North American Environmental Field Conference & Exposition, January 14–16, Tampa, FL.
- Ludvigson, G. A., González, L. A., and Pagani, M., 2008, Stable isotope proxies for polar paleoprecipitation in ancient greenhouse worlds: Invited keynote presentation for Topical Session 10, Geological Society of America, Abstracts with Programs, v. 40, no. 6, p. 192.
- Ludvigson, G. A., Smith, J. J., Macfarlane, P. A., Mandel, R. Haj, A. E., Murphy, L., and McKee, A., 2008, Evidence for a regionally persistent carbon isotopic chemostratigraphy in the Neogene High Plains succession of western Kansas: Geological Society of America, Abstracts with Programs, v. 40, no. 5, p. 24.
- Luo, Y., Xia, J., Liu, J., Xu, Y., and Liu, Q., 2008, High resolution dispersive energy imaging by sparse radon transform: Symposium on the Application of Geophysics to Environmental and Engineering Problems (SAGEEP), Annual Meeting of the Environmental and Engineering Geophysical Society (EEGS), April 6–10, Philadelphia, PA, 1 p.
- Luo, Y., Xia, J., Miller, R. D., Liu, J., Xu, Y., Liu, Q., 2008, Rayleigh-wave dispersive energy imaging by high-resolution linear Radon transform [abs.]: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2008), Philadelphia, PA, April 6–10.
- Macfarlane, P. A., 2008, Helping students make the transition from novice learner of ground-water concepts to expert using the expanded Plume Busters software: Geological Society of America, Abstracts with Programs, v. 40, no. 5, p. 10.
- Mandel, R. D., 2008, Alluvial paleosols and the Pleistocene-Holocene transition in the Central Great Plains, U.S.A.: Poster presented at the 20<sup>th</sup> Biennial Meeting of the American Quaternary Association, Penn State University, University Park, PA, June.
- Mandel, R. D., 2008, Buried Paleoindian-age landscapes in stream valleys of the Central Plains, USA: 39th Binghamton Geomorphology Symposium, University of Texas at Austin, October.
- Mandel, R. D., 2008, Paleoenvironments of buried alluvial soils representing Paleoindian-age landscapes in draws on the High Plains of western Kansas: Joint Annual Meeting of the Geological Society of America and Soil Science Society of America, Houston, TX, October.
- Mayer, L. M., Miller, R. D., Ivanov, J., Weis, T., and Anderson, B., 2008, Near-surface seismic methods to enhance reflection events in high desert region [abs.]: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2008), Philadelphia, PA, April 6–10.
- Miller, R. D., and Xia, J., 2008, High-resolution seismic reflection to image hydrogeologic sequences [exp. abs.]: Society of Exploration Geophysicists.
- Miller, R. D., Xia, J., Henthorne, R., and Croxton, N., 2008, Seismic reflection characteristics of subsidence affecting transportation [abs.]: Fifth Highway Geophysics–NDE Conference Program, December 1–4, p. 67.
- Miller, R. D., Walters, S. L., Xia, J., Luo, Y., Ivanov, J., and McKenna, J. R., 2008, Seismic tunnel detection using the full wavefield [abs.]: 2008 Meeting of the MSS Specialty Group on Battlefield Acoustic and Seismic Sensing, August 19–21.
- Newell, K. D., and Merriam, D. F., 2008, The case of the barren basin—the Salina basin of Kansas (abs.): American Association of Petroleum Geologists, 2008 Annual Convention & Exhibition, San Antonio, TX, Abstracts Volume, p. 149.
- Nissen, S. E., Doveton, J. H., and Watney, W. L., 2008, Petrophysical and geophysical characterization of karst in a Permian San Andres reservoir, Waddell field, West Texas (abs.): American Association of Petroleum Geologists, Convention Abstracts.
- Salcedo, G. A., and Carr, T. R., 2008, Regional sequence stratigraphy and depositional environments of the Lower Pennsylvanian in southwest Kansas, (abs.); *in*, Morrow and Springer in the southern midcontinent, 2005 Symposium, R. D. Andrews, ed.: Oklahoma Geological Survey, Circular 111, p. 149.
- Smith, J. J., Ludvigson, G. A., Macfarlane, P. A., Mandel, R., Haj, A., Murphy, L., and McKee, A., 2008, Carbon isotopic chemostratigraphy of Neogene strata in the High Plains succession of Kansas: Geological Society of America, Abstracts with Programs, v. 40, no. 6, p. 257–258.
- Sophocleous, M. A., Townsend, M. A., Vocasek, F., and Ma, L., 2008, Treated wastewater and nitrate transport beneath irrigated fields—A Kansas water reuse project: 2008 Joint GSA-SSSA Annual Meeting, Abstracts with Programs, v. 40, no. 6, p. 50.
- Suarez, M. B., González, L. A., Ludvigson, G. A., and You, H., 2008, Evidence of an intensified global hydrologic cycle during the Cretaceous from freshwater and pedogenic carbonates of Gansu Province, China: Society for the Advancement of Chicanos and Native Americans in Science, National Conference Abstracts, v. 5, p. XX.

- Suarez, M. B., González, L. A., Ludvigson, G. A., and You, H., 2008, Stable carbon isotope chemostratigraphy of the fossil bird-bearing Early Cretaceous Xiagou Formation in Changma Basin, Gansu Province, China: *Journal of Vertebrate Paleontology*, v. 28, no. 3, p. 149A.
- Tsoflias, G. P., Ivanov, J., Anandakrishnan, S., and Miller, R. D., 2007, Use of active source seismic surface waves in glaciology [abs.]: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2008), Philadelphia, PA, April 6–10.
- Victorine, J., Doveton, J. H., Franseen, E. K., and Watney, W. L., 2008, Regional virtual subsurface geology—Development of subsurface information system (SIS) web-based tools for geological imaging and problem-solving in the U.S. midcontinent (abs.): American Association of Petroleum Geologists, Convention Abstracts, p. 206.
- Watney, W. L., Boardman, D., Suneson, N., Puckette, J., Thompson, T., Franseen, E. K., Doveton, J., Victorine, J., Stalder, K., and Walton, R., 2008, Preliminary high-resolution stratigraphic analysis of the Caney and Woodford Shales in a continuous shallow corehole (Current #1) from the Lawrence uplift in Pontotoc County, Oklahoma: Oklahoma Gas Shales Conference, Oklahoma Geological Survey, October.
- Watney, W. L., Franseen, E. K., Doveton, J. H., Thompson, T. L., Boardman, D. R., Rasbury, T., Newell, K. D., Victorine, J., Suneson, N., and Starbuck, E., 2008, High-resolution sequence stratigraphic and chronostratigraphic investigations of the lower shelf and basinal lithofacies of the Mississippian subsystem in the southern midcontinent, U.S.A. (abs.): American Association of Petroleum Geologists, 2008 Annual Convention & Exhibition, San Antonio, TX, Abstracts Volume, p. 212.
- Whittemore, D. O., 2008, Effects of stormwater runoff into sand pits on ground-water quality in Sedgwick County, Kansas: Proceedings 17<sup>th</sup> Annual Kansas Hydrology Seminar, AIH & AEG, Topeka, KS.
- Whittemore, D. O., 2008, Trace contaminants in surface water in sand pits and impact on ground-water quality of a midwest U.S. city: Geological Society of America, Abstracts with Program, v. 40, no. 6, p. 32.
- Xia, J., Miller, R. D., and Xu, Y., 2008, Data resolution matrix and model resolution matrix of Rayleigh-wave inversion using a damped least-square method [abs.]: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2008), Philadelphia, PA, April 6–10.

## **Presentations**

- Adkins–Heljeson, M.—Presentation on KGS open-file and publication program to students of Dr. A. Walton (KU).
- Battles, E.—Represented DASC at our public display booth and attended and made presentations at the following conferences: 2008 MAGIC Conference; Presentation: Importance of Administrative Boundaries; 2008 Kansas Association of Counties (KAC) Conference; Presentation: DASC Data Backup Initiative; 2008 Kansas Association of Mappers (KAM) Conference; Presentation: DASC Update; Presentation: Homeland Security.
- Bohling, G. C., and Wilson, B. B., 2008, Preliminary analysis of 2008 western Kansas High Plains aquifer water levels: Proceedings 25<sup>th</sup> Annual Water and the Future of Kansas Conference, March 25, Topeka.
- Brady, L. L., 2008, Industrial minerals—mines, quarries, and general resources in Kansas: 44<sup>th</sup> Forum on the Geology of Industrial Minerals, Midwest City, Oklahoma.
- Buddemeier, R. W., Young, D. P., Whittemore, D. O., Wilson, B. B., and Reboulet, E. C., 2008, Index well monitoring for the High Plains aquifer in Kansas: 53<sup>rd</sup> Annual Midwest Ground Water Conference, Program with Abstracts, Iowa Geological and Water Survey, p. 65.
- Buddemeier, R. W., Young, D. P., Wilson, B. B., Reboulet, E. C., and Whittemore, D. O., 2008, Enhanced water-level monitoring for enhanced Ogallala aquifer management: Proceedings 25<sup>th</sup> Annual Water and Future of Kansas Conference, Topeka.
- Butler, J. J., Jr., 2008, What the heck is a phreatophyte—A field investigation of ecohydrologic processes in stream-aquifer systems, an invited presentation to the Department of Geological Sciences, University of South Carolina, Columbia, South Carolina, April 17.
- Butler, J. J., Jr., Jin, W., Mohammed, G. A., Kluitenberg, G. J., Whittemore, D. O., and Reboulet, E. C., 2008, Site characterization using well responses to natural stimuli—Examples from the Larned Research Site: American Geophysical Union, December 17, invited presentation.
- Charlton, J.—Program presenter at Second Annual Smoky Hill Trail Association, Salina, October.
- Dealy, M.—Presentation on “Development of the Sumner Shallow Group Aquifer” to Division of Water Resources, Stafford Office.

- Dealy, M.—Presentation on “Development of the Sumner Shallow Group Aquifer” to Kansas Department of Health and Environment, Fall technical session.
- Dealy, M.—Presentation on “Kansas Groundwater Supplies and Groundwater Levels” to Regional Economic Area Partnership annual conference.
- Dealy, M.—Presentation on “Groundwater Monitoring Needs In the Arkansas Valley Alluvial Aquifer” to Regional Economic Area Partnership - Water Resources Committee.
- Dunham, J.—GIS conversion of Kansas historical county geology maps (co-author Darren J. Haag.), ESRI International User Conference, San Diego, California, August 7.
- Dunham, J.—A new surficial geology map of Kansas. Poster presentation, 11th Biennial MidAmerica GIS Symposium, MidAmerica GIS Consortium (MAGIC), Kansas City, Missouri, April 22.
- Dunham, J.—Surficial geology of the Tallgrass Prairie National Preserve, Chase County, Kansas. Map Gallery (poster) presentation, ESRI International User Conference, San Diego, California, August 4.
- Franseen, E.—Miocene–Pliocene Carbonate Complexes in SE Spain Research Program, Shell Oil Company, Houston, Texas, November 18.
- Franseen, E.—Invited session chair, Carbonate-dominated Deep-water Depositional Systems, 2008 AAPG/SEPM Meeting, San Antonio, Texas.
- Franseen, E.—Invited co-convenor, NSF Workshop—Community Sedimentary Model Science Plan for Carbonate Systems, February 2008, Golden, Colorado.
- Look, K. K., Watney, L., and Radford, R., 2008, The Kansas model—From the KCC to the Survey to the Society: 4<sup>th</sup> Annual Energy Resource Libraries Conference and Workshop in Wichita, Kansas.
- Ludvigson, G. A., Geologic studies in the High Plains of western Kansas: School Assembly at Rock Hills Middle School, Burr Oak, Kansas, February 20.
- Ludvigson, G. A., Kansas participation in the Statemap program: Kansas Geological Survey Advisory Council, Lawrence, Kansas, November 13.
- Ludvigson, G. A., Stratigraphic Research program on sediments of the High Plains aquifer in Kansas: Brownbag Professional Development Lecture, Kansas Water Office, Topeka, Kansas, July 22.
- Macfarlane, P. A., Assessment of seasonal, pumping-induced water quality changes in the Ozark Plateaus aquifer system: 53<sup>rd</sup> Annual Midwest Ground Water Conference, Program with Abstracts, p. 44.
- Mandel, R., Geoarchaeology of *Ais Yorkes*, a pre-Pottery Neolithic village in southern Cyprus: Explorations in Archaeology Lecture Series, University of Kansas, Lawrence, November 21.
- Mandel, R., Geology, geomorphology, and Late Quaternary paleoenvironments of the Kansas Flint Hills: U.S. Department of Agriculture, Natural Resources Conservation Service, 2008 North Central Regional Work Planning Conference, Kansas State University, Manhattan, June 23.
- Mandel, R., Stratigraphy, paleoenvironments, and Paleoindian geoarchaeology of Late Quaternary valley fills in the Central Plains of North America: National Science Foundation, IGERT Lecture Series in Archaeological Sciences, University of Arizona, Tucson, April 25.
- Miller, R. D., 4th Annual Border Management Summit, Bethesda, Maryland, October.
- Miller, R. D., Military Sensing Symposium (MSS), Battlespace Acoustic & Seismic, Magnetic & Electric Fields, August.
- Miller, R. D., University of Oklahoma, College of Earth and Energy, GeoSeminar, September.
- Miller, R. D., University of Kansas, Department of Geology Seminar, September.
- Miller, R. D., Walters, S. L., Xia, J., Ivanov, J., and McKenna, J. R., 2008, Seismic tunnel detection using the full wavefield: Proceedings of the 2008 Meeting of the MSS Specialty Group on Battlefield Acoustic and Seismic Sensing, August 19–21, Laurel, Maryland, 17 p. Published on CD.
- Miller, R. D., Xia, J., Henthorne, R., and Croxton, N., 2008, Seismic reflection characteristics of subsidence affecting transportation: Fifth Highway Geophysics–NDE Conference, December 1–4, Program, p. 67.
- Newell, K. D., 2008, Case studies on feasibility of carbon sequestration in Kansas coal beds: talk presented at UIC State Representatives Meeting, Kansas City, Kansas, April 10.
- Newell, K. D., 2008, Kansas coalbed methane: talk given to legislature interim committee on energy production, Topeka, Kansas, August 20.
- Newell, K. D., 2008, Kansas coalbed methane comes of age: talk given at annual meeting of the Eastern Kansas Oil and Gas Association, Chanute, Kansas, September 11.
- Newell, K. D., 2008, Kansas coalbed methane: talk given to Kansas Geological Society, Wichita, Kansas, October 28.
- Newell, K. D., 2008, Coalbed gas in eastern Kansas: lecture presented at Emporia State University environmental geology class, Emporia, Kansas, November 10.

- Smith, J., Chemostratigraphic, paleopedologic, and paleobiologic response to climate change—Two case studies in terrestrial Cenozoic deposits, Kansas Geological Survey, November 4.
- Sophocleous, M. A., Invited keynote speaker at the Workshop on Quantifying Aquifer-River Fluxes—Modelling for Processes and Management, University of Sheffield, Sheffield, United Kingdom, March 12–13.
- Sophocleous, M. A., Invited keynote speaker at the “Capacity Building of a China Groundwater Information Center” Final Project Conference, China Institute for Geo-Environmental Monitoring, Beijing, China, October 27–29.
- Sophocleous, M. A., Invited keynote speaker at the XV Brazilian Groundwater Congress, Natal, Brazil, November 10–14.
- Sophocleous, M. A., Invited “California Water Colloquium” speaker, University of California–Berkeley, November 18.
- Sophocleous, M. A., Environmental flows—A call to action for hydrogeologists as well: Powerpoint presentation available at [http://www.hyporheic.net/Sophocleous\\_Sheffield-EFs\\_2008slides.pdf](http://www.hyporheic.net/Sophocleous_Sheffield-EFs_2008slides.pdf)  
NERC Hyporheic Network & Groundwater Modellers' Forum Workshop, March 12–13.
- Sophocleous, M. A., 2008, Groundwater sustainability and its application in Kansas. California Colloquium on Water, University of California–Berkeley, November 18. Streaming video of this lecture as well as Powerpoint slides are available from the University of California–Berkeley Water Resources Center Archives at <http://www.lib.berkeley.edu/WRCA/ccow.html>
- Sophocleous, M. A., Townsend, M. A., and Vocasek, F., Minimizing the adverse effects of water reuse for crop irrigation near Dodge City, Kansas: 25<sup>th</sup> Annual Water and the Future of Kansas Conference, March 25, Topeka, Kansas, p. 14.
- Sophocleous, M. A., Townsend, M. A., Vocasek, F., Ma, L., and KC, A., Field testing and modeling the effects of treated wastewater for crop irrigation near Dodge City, KS—Minimizing the nitrogen adverse effects: North Central Regional Work Planning Conference, NRCS, Manhattan, KS, June 23–26. Powerpoint presentation available at [ftp://ftp-fc.sc.egov.usda.gov/NSSC/NCSS/Conferences/regional/2008/North\\_Central/sophocleus.pdf](ftp://ftp-fc.sc.egov.usda.gov/NSSC/NCSS/Conferences/regional/2008/North_Central/sophocleus.pdf)
- Townsend, M. A., Sophocleous, M. A., Macko, S. A., Ghijsen, R., and Schuette, D., Effects of macropore flow and seasonal variability on water quality at a wastewater-recharge site: 25<sup>th</sup> Annual Water and the Future of Kansas Conference, March 25, Topeka, Kansas, p. 15.
- Townsend, M. A., Sophocleous, M. A., Macko, S. A., Ghijsen, R., and Schuette, D., 2008, Use of nitrogen-15 and boron, bromide, and chloride concentrations as tracers to identify mixing and seasonal variability of water quality at a wastewater-recharge site, Dodge City, Kansas: 53<sup>rd</sup> Annual Midwest Ground Water Conference, Dubuque, Iowa, September 29–October 2.
- Wilson, B. B., Presentations at Winfield Solutions Fall Conference, Kansas Water Congress Summer Conference, Governor's Natural Resources Subcabinet, Southwest Kansas GMD #1 Board Meeting, KU GEOG 558 Intermediate Geographic Information Systems Class, Kansas GMD Association Annual Meeting, Smoky Hill River Valley's Irrigators and Water Users Information Meeting, Smoky Hill–Saline Basin Advisory Committee, KGS Legislative Field Conference, Kansas Rural Water Association Conference, and Water and the Future of Kansas Conference.
- Xia, J.—High-frequency Rayleigh-wave method: Kansas State University Department of Geology, December 4.
- Xia, J.—EAGE Near Surface 2008, Krakow, Poland, September 15.

## **Awards**

- Bohling, G.—Editors' Citation for Excellence in Refereeing for Water Resources Research.
- Buchanan, R.—Fellow, Geological Society of America.
- Butler, J.—Appointed Member, Darcy Task Force, National Ground Water Association (2008–).
- Butler, J.—Editors' Citation for Excellence in Refereeing for Water Resources Research.
- Miller, R.—Merriam Research Award, KGS.
- Miller, R.—Project of Merit Award, SEG Foundation, 2008.
- Miller, R.—Research Achievement Award, University of Kansas.
- Walters, S.—Gerhard Field Excellence Award, KGS student award.
- Wilson, B.—KU Unclassified Employee of the Month (July).

- Xia, J.—The Harold Mooney Award, Near-Surface Geophysics Section of the Society of Exploration Geophysicists, 2008.
- Xia, J.—Selected Best Paper at SAGEEP, the Environmental and Engineering Geophysical Society Annual Meeting, 2008.

## **Internal Service**

- Adkins-Heljeson, M.—Member of KGS search committee for Exploration Services research assistant.
- Battles, E.—Created a series of custom maps for week long annual tour sponsored by the University of Kansas Chancellor's office. The maps were titled “Wheat State Whirlwind: A Tour of the Heartland for KU Faculty.”
- Buchanan, R.—University of Kansas, Strategic Planning Committee, 2008; Unclassified Academic Staff Representative, Task Force on the Handbook for Faculty and Other Unclassified Staff, 2008–.
- Butler, J.—University of Kansas - Student Advising, Postdoctorate Fellow—Wei Jin (2007–).
- Butler, J.—Chair, KGS Geohydrology Scientist Search Committee.
- Butler, J.—Chair, KGS Promotion and Review Committee.
- Butler, J.—Member, KGS Stratigraphic Research Assistant Scientist Search Committee.
- Butler, J.—Member, KGS Promotion and Review Committee.
- Doveton, J.—KGS Workshop “The Crash Course in Log Analysis—An Excel Spreadsheet Workshop,” April 18, Lawrence.
- Doveton, J.—C&PE 528 Well Logging workshop.
- Franseen, E.—Member, Five-year Review Committee for Tertiary Oil Recovery Program, KU.
- Franseen, E.—Instructor for KU course Geology 791; co-instructor of KU course Geology 761.
- Franseen, E.—Co-leader of a 10-day field trip for University of Kansas and University of Puerto Rico—Mayaguez geology graduate and undergraduate students to Miocene–Pliocene carbonate complexes, Spain.
- Killion, M.—Search committee member for an open position in Cartographic Services.
- Ludvigson, G.—StateMap Program Coordinator.
- Mandel, R.—Advisor and committee chair for the senior honors thesis for Kyle Gorynski, KU Department of Geology.
- Mandel, R.—Advisor and committee chair for the Master's thesis for Laura R. Murphy, KU Department of Anthropology.
- Mandel, R.—Served on dissertation committee for Mark Zlojutro, KU Department of Anthropology.
- Mandel, R.—Member of KU faculty search committee, archaeology position.
- Mandel, R.—Departmental Representative, KU's 2008 United Way Campaign.
- Mandel, R.—Member of KU faculty committee for selecting speakers, Carroll Clark Lecture Series.
- Mandel, R.—Member of search committee for hiring geologic sample Research Technician, a joint position shared by the Kansas Geological Survey and the KU Department of Geology.
- Miller, R.—KU RGS Research Achievement Award Selection Committee.
- Miller, R.—KU RGS TORP Five-year Review Committee.
- Miller, R.—Taught KU course GEOL 775, Near-surface Seismology
- Miller, R.—Chair of KU thesis committee for M.S. student Shelby Walters.
- Nelson, K.—University of Kansas Geography & Atmospheric Science Alumni Board, 2008–present.
- Newell, K. D.—Merriam International Travel Awards Committee member.
- Newell, K. D.—Member of search committee for Analytical Chemist, KGS.
- Newell, K. D.—Member of search committee for Energy Research geoscientist.
- Newell, K. D.—Chair of Students Awards Committee.
- Sophocleous, M.—Co-chair of KGS search committee for Water Cycle Geohydrology position (2008–).
- Sophocleous, M.—Taught KU course Geology 754, Contaminant Transport, Spring 2004, 2005, 2006, 2007, 2008 (guest lecturer).
- Sophocleous, M.—Supervised M.S. thesis for Ashok, KC, Department of Civil, Environmental, and Architectural Engineering, KU.
- Suchy, D.—Chaired committee to promote KGS proposal to KDHE to develop and maintain online process for submitting water well completion forms; chaired meeting between KDHE representatives and KGS staff; served as KGS contact with KDHE and as term negotiator.

Xia, J.—Member, KGS Research Advisory Group, 2008–09.

## **External Service**

Battles, E.—Created series of statewide Initiatives status maps for the KAC conference.

Battles, E.—*FGDC/USGS/MAGIC Metadata Creation and Updating Workshop Grant*

Report Kansas (DASC) metadata status for regional analysis

Helped design and present curriculum for full day metadata workshop presentations and materials

Presentations: Metadata triage – Columbia, MO & Manhattan, KS

Battles, E.—*Homeland Security/Local Government Data Coordinator/DASC Initiatives*

DASC off-site GIS data backup & Kansas GIS Inventory Initiative

Visit numerous local government offices to promote Homeland Security grants

Presentation: Regional Homeland Security & DASC Data Backup

Participate in MVP (Most Valuable Professional) sub-regional meetings

Presentation: GAP Analysis

Buchanan, R.—Association of American State Geologists, Governmental Affairs and Liaison Committee, 2008–09.

Buchanan, R.—Midwestern Governors Association, Renewable Electricity, Advanced Coal with Carbon Capture and Storage Advisory Group, 2008–present.

Butler, J.—Taught half of course ‘Advanced Aquifer Testing Analysis Featuring AQTESOLV: New Concepts, Field Methods, and Data Analysis Procedures’, St. Johns River Water Management District, FL, June 23–25; University of Texas at San Antonio, Texas, February 27–29.

Butler, J.—Analysis of Pumping Tests with AQTESOLV (sole instructor), Division of Water Resources, Kansas Department of Agriculture, Topeka, Kansas, June 20.

Butler, J.—Aquifer Testing for Improved Hydrogeologic Site Characterization Featuring AQTESOLV and the In-Situ LevelTroll (taught half of course), Fort Collins, Colorado, Oct. 21–22; Waterloo, Ontario, February 19–20.

Butler, J.—Associate Editor—Hydrogeology Journal (2006–).

Butler, J.—John Keller doctoral dissertation, Department of Geology, Southern Illinois University (2007–).

Butler, J.—Promotion and Tenure Evaluator—Department of Earth Sciences, University of Memphis.

Doveton, J.—EREX Short Course on ‘Petrophysical Log Analysis,’ February 24–28; Cairo and Hurghada, Egypt.

Doveton, J.—PEICE ‘Introduction to Log Analysis,’ October 14–16, Calgary, Canada: October 29–31; Houston: November 10–12.

Doveton, J.—P.T. Geoservices ‘Reservoir Petrophysical Log Analysis,’ June 16–20, Bali, Indonesia.

Doveton, J.—Rocky Mountain PTTC Short Course ‘Crash Course in Log Analysis—An Excel Spreadsheet Workshop,’ April 4, Colorado School of Mines, Golden, Colorado.

Doveton, J.—Schlumberger Next ‘Applied Formation Evaluation,’ July 2–August 1, ELC, Melun, France.

Doveton, J.—Tulsa Geological Society E-Cubed Second Annual Education Week: ‘The Crash Course in Log Analysis—An Excel Spreadsheet Workshop,’ February 20, Tulsa, Oklahoma.

Dunham, J.—‘New statewide geology map,’ Geological Survey Advisory Council semiannual meeting, Lawrence, KS, March 4.

Franseen, E.—Chair, SEPM Headquarters and Business Committee, 2008–present.

Franseen, E.—Session Chairman for Session on Carbonate-dominated Deep-water Depositional Systems, AAPG/SEPM Annual Meeting, San Antonio, Texas.

Franseen, E.—Instructor and field trip leader, ExxonMobil, Fundamental Controls on Flow in Carbonates Course, Almeria, Spain.

Franseen, E.—Co-instructor for AAPG Education Program: ‘Controls on Porosity Types and Distribution in Carbonate Reservoirs,’ Almeria, Spain.

Franseen, E.—Co-field trip leader, StatoilHydro, Miocene–Pliocene Carbonate Complexes of Southeastern Spain.

Franseen, E.—Co-field trip leader, SaudiAramco, Miocene–Pliocene Carbonate Complexes of Southeastern Spain.

Franseen, E.—Co-convener and organizer, NSF Workshop—Community Sedimentary Model Science Plan for Carbonate Systems, Golden, Colorado.

Killion, M.—Served on the Technical Advisory Committee of the Kansas GIS Policy Board.

Ludvigson, G.—Associate Editor, Journal of Sedimentary Research; published by Society for Sedimentary Geology.



- Macfarlane, A., Townsend, M. A., and Schulmeister, M., Inquiry-based ground-water science instructional materials for middle and high school science teachers, workshop (October 28), [http://kats.org/uploads/resources/SMARTT\\_2008\\_program\\_final\\_28\\_October.pdf](http://kats.org/uploads/resources/SMARTT_2008_program_final_28_October.pdf).
- Macfarlane, A.—Fun Hands-on Plate Tectonics Activities for Middle-school and Junior-high Science, at Kansas Association of Teachers of Science Camp, Rock Springs Ranch, April.
- Macfarlane, A.—KU Environmental Science Academy, Schlagle Library, Wyandotte County Park, Kansas City, Kansas, 2008–09.
- Macfarlane, A.—Vice President, Central Section, National Association of Geoscience Teachers, 2008–09.
- Mandel, R.—Chair, Awards Committee, Geological Society of America’s Archaeological Geology Division, 2008–2009.
- Mandel, R.—Co-organizer and co-chair of a topical session, “Soils as Components of Archaeological Landscapes,” Annual Meeting of the Geological Society of America, Houston, Texas, October 6.
- Mandel, R.—Co-organizer and co-chair of a topical session, “The Application of Geologic and Pedologic Methods and Theories in Determining the Origin of Mima Mounds and Similar Anomalies,” Annual Meeting of the Geological Society of America, Houston, Texas, October 5.
- Mandel, R.—Elected President of the American Quaternary Association (AMQUA), a 900-member organization, 2008–2010.
- Mandel, R.—Guest speaker, “Geology, Geomorphology, and Late-Quaternary Paleoenvironments of the Flint Hills,” North Central Region Work Planning Conference, U.S. Department of Agriculture, Natural Resources Conservation Service, Kansas State University, Manhattan, Kansas, June 23.
- Mandel, R.—Organizer and trip leader, “Geoarchaeology of the Claussen Site (14WB322),” 64th Annual Plains Anthropological Conference, November 8.
- Mandel, R.—Organizer and co-leader of field trip, “The Origin of the Sandy Mantle and Mima Mounds of the East Texas Gulf Coastal Plain: Geomorphological, Pedological, and Geoarchaeological Perspectives,” Annual Meeting of the Geological Society of America, Houston, Texas, October 4.
- Mandel, R.—Reviewer for the National Science Foundation’s Paleo Perspectives on Climate Change Program.
- Mandel, R.—Taught a two-day geoarchaeology class for the Kansas Anthropological Association’s Training Program, Pawnee Indian Village State Historic Site, Kansas, June 12–13.
- Miller, R.—Highway Geophysics Session Moderator.
- Miller, R.—SEG Near-Surface Geophysics Section Publications Committee, Chairman, 2008–09.
- Miller, R.—SEG, Publications Policy Board.
- Miller, R.—SEG, Special Issue Editor, *The Leading Edge*: January (v. 27, no. 1), mining geophysics; May (v. 27, no. 5), resolution limits; November (v. 27, no. 11), near surface.
- Miller, R.—SEG, Kansas Representative at General Assembly.
- Nelson, K.—Member of National States Geographic Information Council (NSGIC) Parcel Work Group, 2008–present.
- Newell, K.—Energy Minerals Division Midcontinent Section Advisor, American Association of Petroleum Geologists, 2008–10.
- Smith, J.—Co-chaired theme session on “Neontological Solutions to Paleontological Problems: Actualistic Studies of the Morphology, Behavior, and Ecology of Modern Analogs for Ancient Organisms” with Daniel Hembree and Brian Platt for the Annual Meeting of the Geological Society of America.
- Sophocleous, M.—Invited Reviewer of Expert Panel Report on sustainable management of Canada’s groundwater resources, Council of Canadian Academies.
- Suchy, D.—Invited to advise KDHE on makeup of new WWC5 forms, especially in regard to the section on GPS coordinates; coordinated efforts between KGS and KDHE to further their utilization of and reliance on our online WWC5 water well database; coordinated improvements of specialized search pages for KDHE.
- Suchy, D.—Accepted responsibility as KGS member of international “LAS Committee,” which develops worldwide standards for LAS files (i.e., digital e-logs); negotiated acquisition of “LAS Certify” program source code from LAS Committee.
- Suchy, D.—Helped review Kansas Response Plan for Kansas Division of Emergency Management; served as first contact at KGS for State emergency management.
- Suchy, D.—Served at Osage County Multi-Hazard Mitigation Plan kick-off meeting and advised on final plan; also advised on Kiowa County Multi-Hazard Plan.
- Watney, L.—President-elect, Kansas Geological Society and Library.
- Walters, S.—Publications reviewer for the *Journal of the University of China Geosciences*, *Geophysical Prospecting*, and *Transactions on Geoscience and Remote Sensing*.

- Wilson, B.—Member of Kansas Technical Advisory Committee and the DASC Sub-committee to the Kansas GIS Policy Board.
- Xia, J.—Associate Editor, *Near Surface Geophysics* (an EAGE Journal), 2008-2009
- Xia, J.—Guest Editor, *Near Surface Geophysics* (EAGE), 2008.
- Xia, J.—Co-Chair, The 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> International Conference on Environmental and Engineering Geophysics (ICEEG), Wuhan, China, 2004, 2006, and 2008.
- Xia, J.—Session Chairman, Symposium on the Application of Geophysics to Environmental and Engineering Problems (SAGEEP), Annual Meeting of the Environmental and Engineering Geophysical Society (EEGS), April 6-10, 2008, Philadelphia, Pennsylvania.
- Xia, J.—Editor (Xu, Y., Xia, J., and Chen, C.), *Near-Surface Geophysics and Human Activity: Proceedings of the 3<sup>rd</sup> International Conference on Environmental and Engineering Geophysics (ICEEG)*, June 15–20, Wuhan, China, Science Press USA Inc. 653 p

## 2007

### Refereed Publications

- Bohling, G. C., 2007, Review of “Parameter Estimation and Inverse Problems” by Aster, Borchers, and Thurber: *Computers & Geosciences*, v. 33, no. 7, p. 987–988.
- Bohling, G. C., Butler, J. J., Jr., Zhan, X., and M. D. Knoll, M. D., 2007, A field assessment of the value of steady-shape hydraulic tomography for characterization of aquifer heterogeneities: *Water Resources Research*, v. 43, W05430, p. 1–23.
- Buchanan, R. C., *Geology; in, The American Midwest—An Interpretive Encyclopedia*, R. Sisson et al., eds.: Indiana University Press, 2007, p. 133–135.
- Butler, J. J., Jr., Dietrich, P., Wittig, V., and Christy, T., 2007, Characterizing hydraulic conductivity with the direct-push permeameter: *Ground Water*, v. 45, no. 4, p. 409–419.
- Butler, J. J., Jr., Kluitenberg, G. J., Whittemore, D. O., Loheide, S. P., II, Jin, W., Billinger, M. A., and Zhan, X., 2007, A field investigation of phreatophyte-induced fluctuations in the water table: *Water Resources Research*, v. 43.
- Butler, J. J., Jr., Zhan, X., and Zlotnik, V. A., 2007, Pumping-induced drawdown and stream depletion in a leaky aquifer system: *Ground Water*, v. 45, no. 2, p. 178–186.
- Butler, J. J., Jr., Zlotnik, V. A., and M-S. Tsou, M-S., 2007, Reply to Comment on “Drawdown and stream depletion produced by pumping in the vicinity of a partially penetrating stream”: *Ground Water*, v. 44, no. 2, p. 143.
- Carr, T. R., Rich, P. M., and Bartley, J. D., 2007, The NatCarb Geoportal—Linking distributed data from the carbon sequestration regional partnerships: *Journal of Map and Geography Libraries (Geoscapes)*, Special Issue on Department of Energy (DOE) Geospatial Science Innovations.
- Doveton, J. H., 2007, Borehole petrophysical geology in a university curriculum: SPWLA 48<sup>th</sup> Annual Logging Symposium Transactions, Paper NN, 5 p. Reprinted in *CWLS Insight Magazine*, v. 26, no. 3, p. 10–15.
- Dubois, M. K., Bohling, G. C., and Chakrabarti, S., 2007, Comparison of four approaches to a rock facies classification problem: *Computers & Geosciences*, v. 33, no. 5, p. 599–617.
- Franseen, E. K., Byrnes, A. P., Xia, J., and Miller, R. D., 2007, Improving resolution and understanding controls on GPR response in carbonate strata—Implications for attribute analysis: *The Leading Edge*, v. 26, no. 8, p. 984–993.
- Hajic, E. R., Mandel, R. D., Ray, J. H., and Lopinot, N. H., 2007, Geoarchaeology of stratified Paleoindian deposits at the Big Eddy site, southwestern Missouri: *Geoarchaeology: An International Journal*, v. 22, p. 891–934.
- Harbaugh, J. W., Merriam, D. F., and Howard, H. H., 2007, Reconstructing Late Cenozoic stream gradients from high-level chert gravels in central eastern Kansas; in, *Current Research in Earth Sciences: Kansas Geological Survey, Bulletin 253*, pt. 2; <http://www.kgs.ku.edu/Current/2007/Harbaugh/index.html>.
- Hock, S., Ivanov, J., and Miller, R. D., 2007, Test for detecting an impermeable water barrier in an earth-fill dam in Austria using MASW method: *Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2007)*, Denver, Colorado, April 1–5, p. 621–628.

- Hoth, P., Carr, T. R., Wilke, N. A., and Bau, M., 2007, Geochemical signatures of exposure surfaces and paleowater tables in a shallow marine Paleozoic carbonate sequence; midcontinent region, USA: *Sedimentology*.
- Ivanov, J., and Corwin, R. F., 2007, Condition assessment of levees, U.S. Section of the International Boundary and Water Commission, Report 5, Flood simulation study of Retamal Levee, lower Rio Grande valley, Texas, using seismic and electrical geophysical methods: U.S. Army Corps of Engineers, Engineer Research and Development Center Report ERDC TR-03-4, 100 p. + 7 appendices.
- Ivanov, J., Miller, R. D., Dunbar, J. B., Lane, J. W., and Ballard, R. F., 2007, Interrogating levees in Texas, New Mexico, and New Orleans using various seismic methods: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2007), Denver, Colorado, April 1–5, p. 69–81.
- Ivanov, J., Miller, R. D., Xia, J., and Dunbar, J. B., 2007, Applications of the JARS method to study levee sites in southern Texas and southern New Mexico [exp. abs.]: Annual Meeting of the Society of Exploration Geophysicists, San Francisco, California, September 23–28, p. 1,725–1,729.
- Liu, G., Lu, Z., and Zhang, D., 2007, Stochastic uncertainty analysis for solute transport in randomly heterogeneous media using a Karhuen–Loeve-based moment equation approach: *Water Resources Research*, v. 43, no. 7.
- Liu, G., Zheng, C. M., and Gorelick, S. M., 2007, Evaluation of the applicability of the dual-domain mass transfer model in porous media containing connected high-conductivity channels: *Water Resources Research*, v. 43, no. 12, p. 10.
- Liu, J., Xia, J., Luo, Y., Chen, C., Li, X., and Huang, Y., 2007, Wave field features of shallow vertical discontinuity and their application in non-destructive detection: *Journal of Applied Geophysics*, v. 62, no. 3, p. 270–280.
- Luo, Y., Xia, J., Liu, J., Liu, Q., and Xu, S., 2007, Joint inversion of high-frequency surface waves with fundamental and higher modes: *Journal of Applied Geophysics*, v. 62, no. 4, p. 375–384.
- Macfarlane, P. A., and Wilson, B. B., 2006, Enhancement of the bedrock-surface-elevation map beneath the High Plains aquifer, western Kansas: Kansas Geological Survey, Technical Series 20, 28 p.
- Mandel, R. D., 2007, Review of ‘Geoarchaeology: The Earth Science Approach to Archaeological Interpretation,’ by George (Rip) Rapp and C. L. Hill, 2006, Yale University Press, New Haven: *Plains Anthropologist*, v. 52, no. 202, p. 248–249.
- Mandel, R. D., 2007, Review of ‘Soils in Archaeological Research,’ by V. T. Holliday, 2004, Oxford University Press, New York: *Great Plains Research*, v. 17, p. 119.
- Mandel, R. D., Jacob, J. S., and Nordt, L. C., 2007, Geoarchaeology of the Richard Beene site; *in*, Archaeological and Paleocological Investigations at the Richard Beene Site (41BX831), South Central Texas, A. V. Thoms and R. D. Mandel, eds.: Center for Ecological Archaeology, Texas A&M University, College Station, Texas, p. 27–60.
- McCauley, J. R., 2007, Geologic map of Barber County, Kansas: Kansas Geological Survey, Map M-106, 1:50,000.
- Merriam, D. F., Newell, K. D., Doveton, J. H., Magnuson, L. M., Lollar, B. S., and Waggoner, W. M., 2007, Northeast Kansas well tests oil, gas possibilities in Precambrian rocks: *Oil & Gas Journal*, September 17, p. 54–58.
- Miller, R. D., and Hill, S., 2007, Introduction to this special section—The lower 48: *The Leading Edge*, v. 26, no. 2, p. 159.
- Miller, R. D., and Liner, C., 2007, Introduction to this special section—Near surface/seismic to radar: *The Leading Edge*, v. 26, no. 8, p. 983.
- Miller, R. D., Markiewicz, R. D., Rademacker, T. R., Hopkins, R., Rawcliffe, R. J., and Paquin, J., 2007, Advantages of wet work for near-surface seismic reflection [exp. abs.]: Annual Meeting of the Society of Exploration Geophysicists, San Francisco, California, September 23–28, p. 1,147–1,151.
- Miller, R. D., Markiewicz, R. D., Block, L. A., Hartung, S., Hancock, W. E., Ivanov, J., and Xia, J., 2007, Seismic reflection—Upstream, downstream, and on earthen dams and dikes: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2007), Denver, Colorado, April 1–5, p. 861–870. [Selected Top 10 paper at SAGEEP 2007.]
- Newell, K. D., 2007, Wellsite, laboratory, and mathematical techniques for determining sorbed gas content of coals and gas shales utilizing well cuttings: *Natural Resources Research*, v. 16, no. 1, p. 55–66.
- Newell, K. D., Doveton, J. H., Merriam, D. F., Lollar, B. S., Waggoner, W. M., and Magnuson, L. M., 2007, H<sub>2</sub>-rich and hydrocarbon gas recovered in a deep Precambrian well in northeastern Kansas: *Natural Resources Research*, v. 16, no. 3, p. 277–292.
- O'Connor, H. G., 2007, Geologic map of Lyon County, Kansas: Kansas Geological Survey, Map Series M-105, 1 sheet, scale 1:50,000 (originally mapped in 1953).
- O'Connor, H. G., 2007, Geologic map of Osage County, Kansas: Kansas Geological Survey, Map Series M-54, 1 sheet, scale 1:50,000 (originally mapped in 1955).

- Ohlmacher, G. C., 2007, Plan curvature and landslide probability in regions dominated by earth flows and earth slides: *Engineering Geology*, v. 91, no. 2–4, p. 117–134.
- Park, C. B., Miller, R. D., Xia, J., and Ivanov, J., 2007, Multichannel analysis of surface waves (MASW)—active and passive methods: *The Leading Edge*, v. 26, no. 1, p. 60–64.
- Peppers, R. A., and Brady, L. L., 2007, Palynological correlation of Atokan and Lower Desmoinesian (Pennsylvanian) strata between the Illinois basin and the Forest City basin in eastern Kansas; *in*, *Current Research in Earth Sciences: Kansas Geological Survey, Bulletin 253*, part 1, 21 p.; <http://www.kgs.ku.edu/Current/2007/Peppers/index.html>.
- Phillips, P. L., Ludvigson, G. A., Joeckel, R. M., González, L.A., Brenner, R.L., and Witzke, B.J., 2007, Sequence stratigraphic controls on synsedimentary cementation and preservation of dinosaur tracks: Example from the lower Cretaceous, (Upper Albian) Dakota Formation, southeastern Nebraska: *Palaeogeography, Palaeoclimatology, Palaeoecology*, v. 246, p. 367–389.
- Qi, L., Carr, T. R., and Goldstein, R. H., 2007, Geostatistical three-dimensional modeling of oolite shoals, St. Louis limestone, southwest Kansas: *American Association of Petroleum Geologists, Bulletin*, v. 91, no. 1, p. 69–96.
- Rademacker, T. R., R.D. Miller, and S.L. Walters, 2007, Optimizing high frequency Vibroseis data: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2007), Denver, Colorado, April 1–5, p. 871–877.
- Raef, A. E., Miller, R. D., Byrnes, A. P., Watney, W.L., and Franseen, E.K., 2007, 3D seismic imaging of structural and lithofacies properties and time lapse monitoring of EOR-CO<sub>2</sub>-flood—Hall–Gurney field, Kansas, USA: Symposium Proceedings, 14<sup>th</sup> European Symposium on Improved Oil Recovery, Cairo, Egypt, 9 p.
- Scanlon, B. R., I. Jolly, M. Sophocleous, and L. Zhang, 2007, Global impacts of conversions from natural to agricultural ecosystems on water resources: Quantity versus quality, *Water Resources Research*, v. 43, no. 3, p. W03437.
- Sihuang, X., and Watney, W. L., 2007, Dominant factors in controlling marine gas pools in South China: *Frontiers of Earth Science in China*, v. 1, no. 4, p. 1673–7385.
- Simmons, A. H., and Mandel, R. D., 2007, Promoting science and technology from the top: *Science*, v. 317, no. 5845, p. 1,678–1,679.
- Simmons, A. H., and Mandel, R. D., 2007, Not such a new light—A response to Ammerman and Noller: *World Archaeology*, v. 39, no. 4, p. 475–482.
- Sophocleous, M. A., 2007, Ecological impacts of conjunctive use—The role of environmental flows: *Ground Water News & Views*, v. 4, no. 2, p. 6–7.
- Sophocleous, M. A., 2007, The science and practice of environmental flows and the role of hydrogeologists: *Ground Water*, v. 45, no. 4, p. 393–401.
- Steeple, D. W., and Miller, R. D., 2007, Two decades of near-surface seismology progress: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2007), Denver, Colorado, April 1–5, p. 299–309.
- Thoms, A. V., Johnson, E., Christopher Caran, S., Mandel, R. D., and Vance, T., 2007, New evidence for mammoth bone quarrying on the inner Gulf coastal plain of Texas: *Bulletin of the Texas Archeological Society*, v. 78, p. 1–35.
- Thoms, A. V., and Mandel, R. D., eds., 2007, Archaeological and paleoecological investigations at the Richard Beene site (41BX831), south central Texas: Center for Ecological Archaeology, Texas A&M University, College Station, Texas.
- Thoms, A. V., and Mandel, R. D., 2007, Ecological setting—The lower Medina River valley and surrounding inner Gulf coastal plain: Center for Ecological Archaeology, Texas A&M University, College Station, Texas, p. 15–26.
- Townsend, M. A., and Macko, S. A., 2007, Preliminary identification of ground-water nitrate sources using nitrogen and carbon stable isotopes, Kansas: Kansas Geological Survey, *Current Research in Earth Sciences, Bulletin 253*, part 3, 11 p., online at [http://www.kgs.ku.edu/Current/2007/Townsend/Townsend\\_and\\_Macko\\_CR.pdf](http://www.kgs.ku.edu/Current/2007/Townsend/Townsend_and_Macko_CR.pdf).
- Townsend, M. A., Rule, A. C., Meyer, M. A., and Dockstader, C. J., 2007, Teaching the nitrogen cycle and human health interactions: *Journal of Geoscience Education*, v. 55, no. 2, p. 158–168.
- Townsend, M. A., and Sleezer, R. O., 2007, Factors affecting spatial patterns of vadose-zone nitrate in south-central Kansas; *in*, *Concepts and Applications in Environmental Geochemistry, Developments in Environmental Science 5*, D. Sakar, R. Datta, and R. Hannigan, eds.: Elsevier, p. 381–406.
- Walters, S. L., Miller, R. D., Dunbar, J. B., and Smullen, S., 2007, Repeatability observations from a 2D time-lapse seismic survey: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2007), Denver, Colorado, April 1–5, p. 878–884.

- Walters, S. L., Miller, R. D., and Xia, J., 2007, Near-surface tunnel detection using diffracted P-waves—A feasibility study [exp. abs.]: Annual Meeting of the Society of Exploration Geophysicists, San Francisco, California, September 23–28, p. 1,128–1,132.
- Whittemore, D. O., 2007, Fate and identification of oil-brine contamination in different hydrogeologic settings: *Applied Geochemistry*, v. 22, no. 10, p. 2,099–2,114.
- Xia, J., and Miller, R. D., 2007, Integrated geophysical survey in defining subsidence features on a golf course: *Journal of Geophysics and Engineering*, v. 4, p. 443–451.
- Xia, J., Miller, R. D., and Ivanov, J., 2007, Sensitivity of high-frequency Rayleigh-wave data revisited [exp. abs.]: Annual Meeting of the Society of Exploration Geophysicists, San Francisco, California, September 23–28, p. 1,142–1,146.
- Xia, J., Miller, R. D., and Xu, Y., 2007, Data resolution matrix of high-frequency Rayleigh-wave phase velocities: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2007), Denver, Colorado, April 1–5, p. 941–951.
- Xia, J., Nyquist, J. E., Xu, Y., Roth, M. J. S., and Miller, R. D., 2007, Feasibility of detecting near-surface feature with Rayleigh-wave diffraction: *Journal of Applied Geophysics*, v. 62, no. 3, p. 244–253.
- Xia, J., Xu, Y., and Miller, R. D., 2007, Generating image of dispersive energy by frequency decomposition and slant stacking: *Pure and Applied Geophysics*, v. 164, no. 5, p. 941–956.
- Xu, Y., Xia, J., and Miller, R. D., 2007, Numerical investigation of implementation of air-earth boundary by acoustic-elastic boundary approach: *Geophysics*, v. 72, no. 5, p. SM147–SM153.
- Zeng, C., Xia, J., Liang, Q., and Chen, C., 2007, Comparative analysis on sensitivities of Love and Rayleigh waves: Technical Program with Biographies, Society of Exploration Geophysicists, 77th Annual Meeting, San Antonio, Texas, p. 1,138–1,141.

## **Nonrefereed/Unpublished Papers**

- Bennett, B., and Brohammer, M., 2007, 2007 water level data acquisition statistics: Kansas Geological Survey, Open-file Report 2007–33, 17 p.; <http://www.kgs.ku.edu/Hydro/Levels/index.html>
- Bhattacharya, S., 2007, Reservoir simulation studies in Smoky Creek field, Cheyenne County, Colorado: Kansas Geological Survey, Open-file Report 2007–31, 22 p.
- Bohling, G., 2007, Introduction to geostatistics presented 26 June 2007 in “Hydrogeophysics: theory, methods, and modeling” Boise State University, Boise, Idaho: Kansas Geological Survey, Open-file Report 2007–26, 50 p.
- Bohling, G., 2007, S-GeMS tutorial notes presented 26 June 2007 in “Hydrogeophysics: theory, methods, and modeling”, Boise State University, Boise, Idaho: Kansas Geological Survey, Open-file Report 2007–27, 26 p.
- Bohling, G., and Wilson, B. B., 2007, Statistical and geostatistical analysis of the Kansas High Plains water table evaluations, 2007 measurement campaign: Kansas Geological Survey, Open-file Report 2007–32, 47 p.
- Charlton, J. C., 2007, Rephotographic survey exhibit based upon Alexander Gardner’s ‘Across the Continent on the Union Pacific, Eastern Division’: Photographic series at the Great Overland Station, Topeka, Kansas.
- Dealy, M. T., 2007, Land subsidence Kiowa County, Kansas, May 2, 2007: Kansas Geological Survey, Open-file Report 2007–22, 11 p.
- Dillett, P., Goldstein, R. H., and Franseen, E. K., 2007, Paleotopographic and sea-level controls on the sequence stratigraphic architecture of a heterozoan carbonate succession—Pliocene, Carboneras basin; *in*, Controls on Porosity Types and Distribution in Carbonate Reservoirs—A Guidebook for the Miocene Carbonate Complexes of the Cabo de Gata Area, SE Spain, E. K. Franseen, R. H. Goldstein, and M. Esteban, eds.: American Association of Petroleum Geologists, Education Program, p. 139–149.
- Dubois, M. K., Byrnes, A. P., Bhattacharya, S., Bohling, G. C., Doveton, J. H., and Bara, R. E., 2007, Hugoton Asset Management Project (HAMP)—Hugoton Geomodel final report: Kansas Geological Survey, Open-file Report 2007–6; [http://www.kgs.ku.edu/PRS/publication/2007/OFR07\\_06/index.html](http://www.kgs.ku.edu/PRS/publication/2007/OFR07_06/index.html)
- Lyle, S. A., 2007, The geology of radon in Kansas: Kansas Geological Survey, Public Information Circular 25, 6 p.
- Lyle, S., Buchanan, R., Sawin, B., and McCauley, J., 2007, Geology and geoarcheology of northeastern Kansas—A field trip for the Kansas Earth Science Teachers Association Conference in Lawrence, Kansas, September 29, 2007: Kansas Geological Survey, Open-file Report 2007–23.
- Lyle, S. A., Sawin, R. S., Buchanan, R. C., Evans, C. S., and McCauley, J. R., eds., 2007, Wichita, Hutchinson, and surrounding areas—Industry and the Environment, Kansas Field Conference, 2007 Field Conference Guide: Kansas Geological Survey, Open-file Report 2007–12, 53 p.

- Macfarlane, P. A., 2007, The southeast Kansas Ozark aquifer water supply program phase 2 project results: Kansas Geological Survey, Open-file Report 2007–20, 117 p.;  
[http://www.kgs.ku.edu/Hydro/Publications/2007/OFR07\\_20/index.html](http://www.kgs.ku.edu/Hydro/Publications/2007/OFR07_20/index.html).
- Macfarlane, P. A., and Schneider, N., 2007, Practical saturated thickness—A more realistic measure of groundwater availability in heterogeneous aquifers; *in*, Three-dimensional Geologic Mapping for Groundwater Applications, L. H. Thorleifson, R. C. Berg, and H. A. J. Russell, eds.: Minnesota Geological Survey, Open-file Report 2007–4, p. 39–44.
- Macfarlane, P. A., and Schneider, N., 2007, Distribution of the permeable fraction and practical saturated thickness in the Ogallala portion of the High Plains aquifer in the Southwest Kansas Groundwater Management District 3: Kansas Geological Survey, Open-file Report 2007–28, 70 p.;  
[http://www.kgs.ku.edu/Hydro/Publications/2007/OFR07\\_28/index.html](http://www.kgs.ku.edu/Hydro/Publications/2007/OFR07_28/index.html).
- Mandel, R. D., 2007, Geoarchaeological reconnaissance of the proposed Gulf Crossing Project area in Texas: Report submitted to S. Christopher Goodwin & Associates, Inc., Lawrence, Kansas.
- Mandel, R. D., 2007, Geoarchaeological reconnaissance of the Proposed Gulf Crossing Project area in Oklahoma: Report submitted to S. Christopher Goodwin & Associates, Inc., Lawrence, Kansas.
- Mandel, R. D., 2007, Geomorphology and stratigraphy; *in*, Results of Evaluative Testing at Site 14SC112 in Ladder Creek Drainage, Scott County, Kansas, by J. B. Lee and D. Hiemsta: Metcalf Archaeological Consultants, Inc., Eagle, Colorado, p. 8–31.
- McCauley, J. R., 2007, Preliminary geologic maps of portions of Dickinson County, Kansas, including Gypsum SE, Wakefield, Tampa, Industry, Buckeye, Abilene, Abilene SW, Elmo quadrangles: Kansas Geological Survey, Open-file Report 2006–16, 8 pl.
- Merriam, D. F., and Charlton, J. R., 2007, Artists and illustrators along the Kansas overland trails, geology from their pictorial records: Kansas Geological Survey, Open-file Report 2007–18, 6 p.
- Merriam, D. F., and Charlton, J. R., 2007, Art and artists along the Kansas overland trails, geology from their pictorial records (abs.): Kansas Academy of Science, Transactions, v. 110, no. 3/4, p. 304.
- Merriam, D. F., Newell, K. D., Doveton, J. H., Sherwood Lollar, B., Waggoner, W. W. and Magnuson, L. M., 2007, Northeast Kansas well tests oil, gas possibilities in Precambrian rocks: Oil and Gas Journal, September 17, v. 105, no. 35, p. 54–58.
- Miller, R. D., 2007, Seismic reflection survey—Health and safety plan, Newmont Mines Sites on Carlin Trend and Twin Creeks in Nevada: Kansas Geological Survey, Open-file Report 2007–19.
- Miller, R. D., Bennett, B. C., Ivanov, J. Xia, J., Wedel, B. A., Wedel, A. R., and Schwarzer, J. C., 2007, Yuma Proving Ground seismic energy propagation: Kansas Geological Survey, Open-file Report 2007–21.
- Miller, R. D., Ivanov, J., and Walters, S. L., 2007, Continuation of research in seismic techniques for characterizing levees—Las Cruces, NM, component: Kansas Geological Survey, Open-file Report 2007–17, 19 p.
- Miller, R. D., Raef, A. E., Byrnes, A. P., and Harrison, W. E., 2007, Technical progress report, year 3—4-D high-resolution seismic reflection monitoring of miscible CO<sub>2</sub> injected into a carbonate reservoir: Kansas Geological Survey, Open-file Report 2007–11, 8 p.
- Newell, K. D., 2007, Geochemical trends in gas quality in Kansas: Kansas Geological Survey, Open-file Report 2007–8; <http://www.kgs.ku.edu/PRS/publication/2007/2007-8/index.html>.
- Rademacker, T. R., Miller, R. D., and Walters, S. L., 2007, Optimizing high frequency vibroseis data: Proceedings of the 20<sup>th</sup> Annual Symposium on the Application of Geophysics to Engineering and Environmental Problems, p. 871–877.
- Sawin, R. S., and Buchanan, R. C., 2007, Legislators to the field, communicating with policy makers about natural resources issues: Kansas Geological Survey, Open-file Report 2007–24;  
[http://www.kgs.ku.edu/Publications/OFR2007/OFR07\\_24/index.html](http://www.kgs.ku.edu/Publications/OFR2007/OFR07_24/index.html).
- Smith J. J., 2007, Ichnofossils of the Paleogene Willwood Formation and the Paleocene–Eocene Thermal Maximum (PETM)—Response of an ancient soil ecosystem to transient global warming: Ph.D. dissertation, Department of Geology, University of Kansas, Lawrence, 183 p.
- Sophocleous, M. A., Ma, L., Townsend, M. A., Vocasek, F., KC, A., Willson, J., and Schuette, D., 2007, Treated wastewater and nitrate transport beneath irrigated fields near Dodge City, Kansas—Second-year progress report to KWRI, June 2007: Kansas Geological Survey, Open-file Report 2007–25, 51 p.
- Sophocleous, M. A., Townsend, M. A., Willson, T., Vocasek, F., and Zupancic, J., 2007, Fate of nitrate beneath fields irrigated with treated wastewater in Ford County, Kansas—Kansas Water Research Institute First-Year Progress Report: Kansas Geological Survey, Open-file Report 2007–14, 62 p.
- Suchy, D. R., 2007, Meteorites in Kansas: Kansas Geological Survey, Public Information Circular 26, 4 p.

- Townsend, M. A., 2007, Use of the nitrogen-15 natural abundance method and other chemical tracers to identify nitrate sources at Lincolnville, Kansas: Kansas Geological Survey, Open-file Report 2007-13, 31 p.
- Walters, S. L., Miller, R. D., Dunbar, J., and Smullen, S., 2007, Repeatability observations from a time-lapse seismic survey: 19<sup>th</sup> Annual Symposium on the Application of Geophysics to Environmental and Engineering Problems.
- West, R. R., and Sawin, R. S., 2007, Field geology maps, Geary County, Kansas (1:24,000 quadrangles—Fort Riley NE, Junction City, Kansas Falls, Milford, Milford Dam, and Woodbine quadrangles): Kansas Geological Survey, Open-file Report 2007-10, 44 p., 6 maps.
- Whittemore, D. O., 2007, Hydrologic responses to pumping in the Upper Arkansas basin and effects of the Conservation Enhancement Program, prepared for hearings of the Kansas Legislature, Senate Natural Resources Committee, House Agriculture and Natural Resources Committee: Kansas Geological Survey, Open-file Report 2007-3, 14 p.; [http://www.kgs.ku.edu/HighPlains/wraps\\_crep/UARK\\_CREP\\_KGS\\_OFR\\_2007\\_3.pdf](http://www.kgs.ku.edu/HighPlains/wraps_crep/UARK_CREP_KGS_OFR_2007_3.pdf).
- Whittemore, D. O., 2007, Characterization of ground-water chemistry in the area of an alcohol production facility in western Kansas; for ESE Alcohol, Inc and Kansas Department of Health and Environment: Kansas Geological Survey, Open-file Report 2007-29.
- Whittemore, D. O., 2007, Water-quality effects of stormwater runoff into sand pits on ground water in Sedgwick County, Kansas—Phase I – Barefoot Bay, Ridge Port, Moorings, and Cropland pits; for Groundwater Management District No. 2 Task Force on Sand Pits, Kansas Department of Agriculture, Kansas Department of Health and Environment, and Sedgwick County: Kansas Geological Survey, Open-file Report 2007-9, 56 p. and CD.
- Whittemore, D. O., Young, D. P., Wilson, B. B., Buddemeier, R. W., Bohling, G. C., and Woods, J. J., 2007, Ogallala Aquifer Technical Support Study by the Kansas Geological Survey for the Kansas Water Plan—Summary of FY 2007 activities: for Kansas Water Office, 24 p.
- Wilson, B. B., 2007, Ground-water levels in Kansas, a briefing to the Kansas Legislature, House Agriculture and Natural Resources Committee, January 17, 2007: Kansas Geological Survey, Open-file Report 2007-1; [http://hercules.kgs.ku.edu/geohydro/ofr/OFR2007\\_1/index.html](http://hercules.kgs.ku.edu/geohydro/ofr/OFR2007_1/index.html).
- Woods, J. J., and Wilson, B. B., 2007, The Water Information Storage and Retrieval Database (WISARD, a.k.a. WIZARD) web site, user manual: Kansas Geological Survey, Open-file Report 2007-15; [http://hercules.kgs.ku.edu/geohydro/ofr/OFR2007\\_15/index.html](http://hercules.kgs.ku.edu/geohydro/ofr/OFR2007_15/index.html).
- Young, D. P., Buddemeier, R. W., Whittemore, D. O., and Reboulet, E., 2007, High Plains aquifer calibration monitoring well program—Year 1 progress report on well installation and aquifer response: Kansas Geological Survey, Open-file Report 2007-30, 44 p.; online at [http://www.kgs.ku.edu/Hydro/Publications/2007/OFR07\\_30/index.html](http://www.kgs.ku.edu/Hydro/Publications/2007/OFR07_30/index.html).
- Young, D. P., Whittemore, D. O., and Wilson, B. B., 2007, Bedrock surface and aquifer properties of the alluvial valleys of the upper North and South forks of the Solomon River basin, Kansas; for Kansas Department of Agriculture: Kansas Geological Survey, Open-file Report 2007-4, 20 p. and Excel files.

## **Computer Software**

- Hunsinger, K.—2007, Simplified On-Line Automated Reporting (SOLAR).
- Killion, M.—Oil and gas field boundaries; Construction materials inventory; Geology of the Tallgrass Prairie National Preserve (TPNP); Interactive county geology.
- Wilson, B.—Assisted with cross validation review of the cooperative water-level measurement network (1996 to 2007).
- Wilson, B.—Customized ArcGIS tool set for water right prioritization, allocation reductions, and safe yield targets.
- Wilson, B.—Development of automated processes to provide in-field review of daily collected water-level measurements (implemented in January 2008).
- Wilson, B.—Processed the 40 percent depletion in 25 years using current data in support of GMD #3 Rules and Regs review.
- Wilson, B.—Worked with GMD #1 staff on 5-mile radius priority areas around selected municipal water rights within the district.

## **Abstracts**

- Al-Suwaidi, A., González, L. A., Ludvigson, G. A., and Tremain, E., 2007, When carbonates speak—Reconstructing mid-Cretaceous paleoclimate and paleoenvironment from carbonates in the Ruby Ranch Member of the Cedar Mountain Formation: Geological Society of America, Abstracts with Programs, v. 39, no. 5, p. 40.
- Beeton, J. M., and Mandel, R. D., 2007, Late Quaternary landscape evolution and geoarchaeology of the Cottonwood River basin, Flint Hills, Kansas, (abs.): Geological Society of America, Abstracts with Programs, v. 39, no. 6, p. 101.
- Beeton, J. M., and Mandel, R. D., 2007, Late Quaternary landscape evolution and geoarchaeology in the Cottonwood River basin, Flint Hills, Kansas: 41<sup>st</sup> Annual Meeting of the South-Central Section/North-Central Section of the Geological Society of America, Lawrence, Kansas, April.
- Bhattacharya, S., Newell, K. D., Carr, T. R., and Blencoe, J. G., 2007, Geomodel development and simulation studies for possible carbon dioxide sequestration and enhanced coalbed gas recovery beneath a major Kansas City landfill (abs.): American Association of Petroleum Geologists, Midcontinent Section Meeting, Wichita, Kansas, p. 30.
- Bohling, G. C., 2007, Analysis of tomographic pumping tests with regularized inversion: Society for Industrial and Applied Mathematics Conference on Mathematical and Computational Issues in the Geosciences, Santa Fe, New Mexico, March 19–22.
- Bohling, G. C., 2007, Sensitivity and resolution of tomographic pumping tests in an alluvial aquifer [invited]: American Geophysical Union, Spring Meeting, Eos, Transactions, v. 88, no. 23, Joint Assembly Supplement, Abstract H32B–06.
- Bohling, G. C., 2007, Regularized inversion of tomographic pumping tests in the Kansas River valley alluvial aquifer: Geological Society of America, Joint South-Central and North-Central Section Meeting, April 11–13, Lawrence, KS; Geological Society of America, Abstracts with Programs, v. 39, no. 3, p. 7.
- Bohling, G. C., 2007, Regularized inversion of tomographic pumping tests incorporating geophysical data through smoothing splines: American Geophysical Union, Eos, Transactions, v. 88, no. 52, Fall Meeting Supplement, Abstract H42B–06.
- Bohling, G. C., Butler, Jr., J. J., Liu, G., and Dietrich, P., 2007, High resolution aquifer characterization with hydraulic tomography and the direct-push permeameter: Association of Environmental and Engineering Geologists, Annual Meeting, Los Angeles, CA, September 24–29.
- Bohling, G. C., Dubois, M. K., and Byrnes, A. P., 2007, Hugoton geomodel—A hybrid stochastic-deterministic approach: American Association of Petroleum Geologists, Annual Meeting, Long Beach, California, April 1–4.
- Brauchler, R., Hu, R., Vogt, T., Butler, J. J., Jr., Ptak, T., and Sauter, M., 2007, A field assessment of high resolution aquifer characterization based on hydraulic tomography with cross-hole slug tests (abs.): American Geophysical Union, Eos, Transactions, v. 88, no. 52, Fall Meeting Supplement, Abstract H23G–1693.
- Brauchler, R., Hu, R., Vogt, T., Butler, J. J., Jr., Ptak, T., and Sauter, M., 2007, In-situ determination of the spatial variability of hydraulic properties using hydraulic tomography with cross-hole slug tests at the test site Stegemuehle, Germany (abs.): European Geosciences Union, Geophysical Research Abstracts, v. 9, p. 1,319.
- Brownrigg, R. L., Dubois, M. K., Watney, W. L., 2007, Visualizing production and pressure histories with space-time maps (exp. abs.): American Association of Petroleum Geologists, Midcontinent Section Meeting Program, Wichita, Kansas.
- Buddemeier, R. W., 2007, The future of tropical reefs and coastlines; with contributors P. L. Jokiel, I. B. Kuffner, and A. J. Andersson; presented as a contribution to Ocean Acidification—Past, Present, and Future Consequences: AAAS 2007 Annual Meeting, San Francisco, CA.
- Butler, J. J., Jr., 2007, Henry Darcy Distinguished Lecture—What the heck is a phreatophyte?—A field investigation of ecohydrologic processes in stream-aquifer systems (abs.): Geological Society of America, Abstracts with Program, v. 39, no. 6, p. 266.
- Byrnes, A., and Bhattacharya, S., 2007, Modeling variable saturation multi-relative permeability layered systems in transition-zone environments: American Association of Petroleum Geologists, Annual Conference, Los Angeles, CA.
- Byrnes, A. P., Doveton, J. H., Watney, W. L., Bhattacharya, S., 2007, Petrophysical properties of oomoldic limestones in the Lansing–Kansas City Groups, Kansas—Tools for more accurate evaluation and enhancing recovery (abs.): American Association of Petroleum Geologists, Midcontinent Section Meeting. Wichita, Kansas, p. 26.



- Cervato, C., Fils, D., Bohling, G. C., et al., 2007, CHRONOS—Transforming earth history research by seamlessly integrating stratigraphic data and tools: American Association of Petroleum Geologists, Midcontinent Section Meeting, Wichita, Kansas, September 9–11.
- Doveton, J. H., 2007, Facies analysis of the Morrison Formation (Upper Jurassic) in Kansas based on petrophysical logs and drill-cuttings records (abs.): American Association of Petroleum Geologists Midcontinent Section Meeting, Wichita, Kansas, p. 26.
- Dubois, M. K., Byrnes, A. P., Bhattacharya, S., Bohling, G. C., and Doveton, J. H., 2007, Old field—New paradigms—Stranded gas—Major findings of the three-year Hugoton Study (abs.): American Association of Petroleum Geologists, Midcontinent Section Meeting, Wichita, Kansas, p. 38.
- Dvortetsky, R., Franseen, E. K., Goldstein, R. H., and Byrnes, A. P., 2007, 3-D reservoir characterization of a point-sourced deepwater carbonate reservoir analog, Upper Miocene, Agua Amarga basin, SE Spain: American Association of Petroleum Geologists, Annual Convention Abstracts Volume, p. 39.
- Franseen, E. K., Goldstein, R. H., and Minzoni, M., 2007, Build-and-fill sequences in carbonate systems—An emerging picture: American Association of Petroleum Geologists, Annual Convention Abstracts Volume, p. 48.
- Hasiotis, S. T., Kraus, M. J., Smith, J. J., Counts, J. W., and Woody, D., 2007, Continental ichnofossils as climate-indicator proxies in deep geologic time—Integrating ichnology and paleopedology to access changes in paleohydrology and paleoclimate: American Association of Petroleum Geologists, Annual Convention, Abstracts Volume 16.
- Hofman, J. L., and Mandel, R. D., 2007, The unsatisfied quest for the First Americans—A Great Plains perspective: 41<sup>st</sup> Annual Meeting of the South-Central Section/North-Central Section of the Geological Society of America, Lawrence, KS, April, v. 39, no. 3, p. 72.
- Hock, S., Ivanov, J., and Miller, R. D., 2007, Test for detecting an impermeable water barrier in an earth-fill dam in Austria using MASW method [abs.]: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2007), Denver, Colorado, April 1–5.
- Holen, S. R., Mandel, R. D., and Hofman, J. L., 2007, The Kanorado Paleoindian locality—New interpretations and radiocarbon ages: 65<sup>th</sup> Annual Meeting of the Plains Anthropological Society, Rapid City, SD, October.
- Ivanov, J., Miller, R. D., Dunbar, J. B., Jr., Lane, J. W., Jr., and Ballard, R. F., 2007, Interrogating levees in Texas, New Mexico, and New Orleans using various seismic methods [abs.]: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2007), Denver, Colorado, April 1–5.
- Jin, W., Kluitenberg, G. J., and Butler, J. J., Jr., 2007, Analytical solutions for examining spatial variations in evapotranspiration-driven fluctuations in the water table in vegetated riparian zones (abs.): American Geophysical Union, Eos, Transactions, v. 88, no. 52, Fall Meeting Supplement, Abstract H13B–1246.
- Joeckel, R. M., Ludvigson, G. A., Wally, K. D., and Doveton, J. H., 2007, Preliminary analysis of the Upper Jurassic Morrison Formation in the Rebecca Bounds core, western Kansas (abs): Geological Society of America, Abstracts with Programs, v. 39, no. 6, p. 338.
- Liu, G., Bohling, G. C., Butler, J. J., Jr., and Dietrich, P., 2007, Theoretical investigation of the direct-push permeameter for characterizing vertical variations in hydraulic conductivity: Ninth International In Situ and On-Site Bioremediation Symposium, Baltimore, Maryland, May 7–10.
- Ludvigson, G. A., González, L. A., Joeckel, R. M., Al-Suwaidi, A., and Kirkland, J. I., 2007, Terrestrial paleoclimatologic impacts during carbon isotope excursions associated with mid-Cretaceous oceanic anoxic events: Geological Society of America, Abstracts with Program, v. 39, no. 3, p. 75.
- Ludvigson, G. A., González, L. A., Joeckel, R. M., Al-Suwaidi, A., Kirkland, J. I., and Madsen, S. K., 2007, Carbonate carbon isotope excursions in the Ruby Ranch Member of the Cedar Mountain Formation and their terrestrial paleoclimatologic impacts: Geological Society of America, Abstracts with Program, v. 39, no. 5, p. 33–34.
- Ludvigson, G. A., Haj, A., Fox, D. L., Mandel, R. and Macfarlane, P. A., 2007, Developing a carbon isotope chemostratigraphic approach to understanding Neogene stratigraphic architecture of the High Plains succession in western Kansas: Geological Society of America, Abstracts with Program, v. 39, no. 3, p. 65.
- Ludvigson, G. A., Haj, A., Fox, D. L., Mandel, R. D., and Macfarlane, P. A., 2007, Developing a carbon isotope chemostratigraphic approach to understanding Neogene stratigraphic architecture of the High Plains succession in western Kansas: 41<sup>st</sup> Annual Meeting of the South-Central Section/North-Central Section of the Geological Society of America, Lawrence, Kansas, April.
- Ludvigson, G. A., Haj, A., Fox, D. L., Mandel, R. D., and Macfarlane, P. A., 2007, A new approach to understanding Neogene stratigraphic architecture of the High Plains succession in western Kansas using carbon isotope chemostratigraphy: American Association of Petroleum Geologists, Annual Midcontinent Section Meeting, Wichita, Kansas, September.

- Ludvigson, G. A., Haj, A., Macfarlane, P. A., Mandel, R., and Murphy, L., 2007, Testing a carbon isotopic age model for the Neogene High Plains succession in western Kansas: Geological Society of America, Abstracts with Program, v. 39, no. 6, p. 336.
- Luo, Y., Xia, J., Liu, J., Xu, Y., and Liu, Q., 2007, Discussion on pseudo-2D shear-wave velocity section [abs.]: Symposium on the Application of Geophysics to Environmental and Engineering Problems (SAGEEP), Annual Meeting of the Environmental and Engineering Geophysical Society (EEGS), April 1–5, Denver, CO, 1 p.
- Macfarlane, P. A., 2007, Practical saturated thickness—A more realistic measure of groundwater availability in heterogeneous aquifers: Geological Society of America, Abstracts with Program, v. 39, no. 6, p. 474.
- Macfarlane, P. A., Bohling, G. C., and Townsend, M. A., 2007, Helping students make the transition from novice learners of ground-water concepts to expert using the expanded Plume Busters software: Geological Society of America Abstracts with Program, v. 39, no. 6, p. 620.
- Macfarlane, P. A., and Schneider, N., 2007, The distribution of permeable zones within the Ogallala in the Southwest Kansas Groundwater Management District 3: Geological Society of America, Abstracts with Program, v. 39, no. 3, p. 66.
- Macfarlane, P. A., and Schneider, N., 2007, The distribution of permeable zones within the Ogallala in the Southwest Kansas Groundwater Management District 3: American Association of Petroleum Geologists, Midcontinent Section Meeting Program, p. 40–41.
- Mandel, R. D., 2007, Geoarchaeology of the Richard Beene site (41BX831), south-central Texas: 72nd Annual Meeting of the Society for American Archaeology, Austin, Texas, April.
- Mandel, R. D., 2007, Stratigraphy, geochronology, and geoarchaeology of late Quaternary alluvial fills in draws on the High Plains of western Kansas: 41<sup>st</sup> Annual Meeting of the South-Central Section/North-Central Section of the Geological Society of America, Lawrence, Kansas, April, v. 39, no. 3, p. 72.
- Mandel, R. D., 2007, Stratigraphy, paleoenvironments, and archaeological records of late Quaternary valley fills in draws on the central High Plains of North America: XVII INQUA Congress, Cairns, Australia, July.
- Miller, R. D., 2007, Seismic to characterize the near surface [abs.]: Proceedings of the Geological Society of London, Bicentenary Conference, September 10–12.
- Miller, R. D., Ivanov, J., Hock, S., Markiewicz, R., Dunbar, J., and Lane, J., 2007, Seismic investigations for dam safety [abs.]: Kansas Dam Safety Conference, Topeka, Kansas, March 12–14.
- Miller, R. D., Markiewicz, R. D., Block, L. A., Hartung, S., Hancock, W. E., Ivanov, J., and Xia, J., 2007, Seismic reflection—Upstream, downstream, and on earthen dams and dikes: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2007), Denver, Colorado, April 1–5, p. 861–870. [Selected Top 10 paper at SAGEEP 2007.]
- Murphy, L. R., and Mandel, R. D., 2007, Geoarchaeology of the Burntwood Creek rockshelter (14RW418), northwest Kansas: Geological Society of America, Annual Meeting, Denver, Colorado, October.
- Newell, K. D., 2007, Geochemical trends in gas quality in Kansas (abs.): American Association of Petroleum Geologists, Annual Convention & Exhibition, Long Beach, CA, Abstracts Volume, p. 101; available as Kansas Geological Survey, Open-file Report 2007–8 ([http://www.kgs.ku.edu/PRS/publication/2006/OFR06\\_13/index.html](http://www.kgs.ku.edu/PRS/publication/2006/OFR06_13/index.html)).
- Newell, K. D., 2007, Sorbed gas content of coal and gas shales utilizing well cuttings (abs.): American Association of Petroleum Geologists, Midcontinent Section Meeting Abstracts, Wichita, Kansas, p. 29.
- Newell, K. D., and Carr, T. R., 2007, Biogenic and mixed biogenic-thermogenic origin of coalbed and shale gas in eastern Kansas (abs.): Geological Society of America, Abstracts with Program, v. 39, no. 3, p. 4.
- Nippert, J. B., Butler, J. J., Jr., and Kluitenberg, G. J., Whittemore, D. O., Arnold, D., and Ward, J. K., 2007, *Tamarix ramosissima* physiology and groundwater use during a record drought: Geological Society of America, Abstracts with Program, v. 39, no. 6, p. 265.
- Nordt, L., Boutton, T., Jacob, T. J., and Mandel, R. D., 2007, Relative C<sub>4</sub> plant productivity and temperatures of south-central Texas inferred from the isotopic composition of buried soil organic matter: 72nd Annual Meeting of the Society for American Archaeology, Austin, Texas, April.
- Phillips, P. L., Ufnar, D. F., Ludvigson, G. A., and González, L. A., 2007, Siderite spherules and cements as proxies for paleogroundwater evolution and paleoclimatic changes—A comparison of apples and oranges?: Geological Society of America, Abstracts with Program, v. 39, no. 6, p. 302.
- Poteet, J., Franseen, E. K., and Goldstein, R. H., 2007, Late diagenesis—The key to Pennsylvanian regressive oomoldic reservoirs (central Kansas): American Association of Petroleum Geologists, Abstracts, p. 112.
- Rademacker, T. R., Miller, R. D., and Walters, S. L., 2007, Optimizing high frequency Vibroseis data [abs.]: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2007), Denver, Colorado, April 1–5.

- Raef, A. E., Miller, R. D., Byrnes, A. P., Watney, W. L., and Franseen, E. K., 2007, 3D seismic imaging of structural and lithofacies properties and time lapse monitoring of an EOR-CO<sub>2</sub>-flood—Hall—Gurney field, Kansas, USA: 14<sup>th</sup> European Symposium on Improved Oil Recovery, Cairo, Egypt, April 22–24.
- Rose, P. J., Fox, D. L., and Ludvigson, G. A., 2007, Mammalian enamel and floodplain carbonate oxygen isotope records of Middle Paleocene paleoclimate, Crazy Mountains basin, Montana: Geological Society of America, Abstracts with Program, v. 39, no. 3, p. 76.
- Rule, A., and Townsend, M. A., 2007, Use of the nitrogen cycle to assist teachers with environmental and geohealth topics: Joint South-Central and North-Central Sections, 41st Annual Meeting, Geological Society of America, Abstracts with Programs, v. 39, no. 3, p. 13, April 11–13, [http://gsa.confex.com/gsa/2007SC/finalprogram/abstract\\_120125.htm](http://gsa.confex.com/gsa/2007SC/finalprogram/abstract_120125.htm).
- Sawin, R. S., Buchanan, R. C., and Lyle, S. A., 2007, Using a field experience to communicate natural resource issues to policy makers—The Kansas Field Conference (abs.): American Association of Petroleum Geologists, Eastern Section, Annual Meeting, September 16–18, Lexington Kentucky, Program with Abstracts, p. 52.
- Smith, J. J., and Hasiotis, S. T., 2007, Traces and burrowing behaviors of the cicada nymph: *Melampsalta calliope*—Neoichnology and paleoecological significance of modern soil-dwelling insects: Geological Society of America, South- and North-Central Joint Section Meeting, Abstracts with Programs, v. 39, no. 3, p. 54.
- Smith, J. J., Hasiotis, S. T., Kraus, M. J., and Woody, D. T., 2007, Ichnofossils of ancient soil biota show changes in abundance, stratigraphic distribution, and size during a rapid global-warming event—Paleocene–Eocene thermal maximum interval, Paleogene Willwood Formation, Bighorn basin, Wyoming: Geological Society of America, Annual Meeting Program, v. 39, no. 6, p. 206.
- Sophocleous, M. A., 2007, Ecological impacts of conjunctive use: NGWA 2007 Theis Conference—Conjunctive Management of Ground Water and Surface Water—Application of Science to Policy, Park City, Utah, September 8–October 1.
- Sophocleous, M. A., 2007, Restoring instream flows in the U.S. and the world: 41<sup>st</sup> Annual Meeting of the South-Central & North-Central Sections of the Geological Society of America, April 12, Lawrence, Kansas.
- Sophocleous, M. A., 2007, The tale of groundwater leading to the future, with the state of Kansas, USA, as an example: Proceedings of the 2007 Pre-Forum of the 36<sup>th</sup> Congress of IAH (International Association of Hydrogeologists) in Toyama, Japan, August 10–11, p. 24–33.
- Steeple, D. W., and Miller, R. D., 2007, Two decades of near-surface seismology progress [abs.]: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2007), Denver, Colorado, April 1–5.
- Suarez, M., González, L. A., Ludvigson, G. A., and Davis, J., 2007, Pedogenic sphaerosiderites from the Caballos Formation (Aptian–Albian) of Colombia—A stable isotope proxy for Cretaceous paleoequatorial precipitation: Geological Society of America, Abstracts with Program, v. 39, no. 3, p. 75.
- Suarez, M., González, L. A., Ludvigson, G. A., and Ufnar, D., 2007, Oxygen isotopic study of carbonate minerals from the mid-Cretaceous low latitudes—Insights into the Cretaceous global hydrologic cycle: Society for the Advancement of Chicanos and Native Americans in Science, National Conference Abstracts, v. 4, p. 28.
- Townsend, M. A., Macko, S. A., Ghijsen, R., Thompson, J., Schneider, N., and Schuette, D., 2007, Variations in nitrogen water chemistry, soil content, and plant uptake at a wastewater irrigation site: Geological Society of America, Joint South-Central and North-Central Sections, 41st Annual Meeting, April 11–13, Abstracts with Program, v. 39, no. 3, p. 5, online at [http://gsa.confex.com/gsa/2007SC/finalprogram/abstract\\_120051.htm](http://gsa.confex.com/gsa/2007SC/finalprogram/abstract_120051.htm).
- Townsend, M. A., Sophocleous, M. A., Macko, S. A., Ghijsen, R., and Schuette, D., 2007, Effects of macropore flow and seasonal variability on water quality at a wastewater-recharge site: Geological Society of America, Abstracts with Programs, v. 39, no. 6, p. 190, online at [http://gsa.confex.com/gsa/2007AM/finalprogram/abstract\\_128890.htm](http://gsa.confex.com/gsa/2007AM/finalprogram/abstract_128890.htm).
- Walters, S. L., and Miller, R. D., 2007, Repeatability observations from a 2D time-lapse seismic survey [abs.]: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2007), Denver, CO, April 1–5.
- Watney, W. L., Doveton, J. H., Dubois, M. K., Victorine, J. R., and Rasbury, E. T., 2007, Modeling midcontinent Permo–Carboniferous stratigraphy (abs.): Geological Society of America, Midwest Regional Conference, Lawrence, KS.
- Watney, W. L., and Miller, R. D., 2007, Characterization and geologic significance of evaporite karst in Kansas: American Association of Petroleum Geologists, Midcontinent Section Meeting, Wichita, Kansas.

- Whittemore, D. O., Butler, J. J., Jr., and Kluitenberg, G. J., 2007, Impact of channel entrenchment on stream-aquifer interactions and the riparian zone in the Arkansas River valley of south-central Kansas (abs.): Geological Society of America, Abstracts with Program v. 39, no. 3, p. 63.
- Whittemore, D. O., Butler, J. J., Jr., Kluitenberg, G. J., and Loheide, S. P., II, 2007, Climatic and water-use variability impacts on riparian phreatophytes in the Great Plains: Geological Society of America, Abstracts with Program, v. 39, no. 6, p. 266.
- Whittemore, D. O., Butler, J. J., Jr., Kluitenberg, G. J., and Loheide, S. P., II, 2007, Climatic and water-use variability impacts on riparian phreatophytes in the Great Plains (abs.): Geological Society of America, Abstracts with Program v. 39, no. 6, p. 266.
- Whittemore, D. O., Young, D. P., and Buddemeier, R. W., 2007, Calibration monitoring well program for the High Plains aquifer: Proceedings 16<sup>th</sup> Annual Kansas Hydrology Seminar, AIH & AEG, Topeka, Kansas.
- Woodburn, T. L., Johnson, W. C., Dunham, J. W., and Bieker, C. R., 2007, Kansas geologic mapping—more than just paper maps (poster): Geological Society of America, Annual Meeting, Denver, Colorado, October 28.
- Woody, D. T., Kraus, M. J., Smith, J. J., and Hasiotis, S. T., 2007, Abrupt paleoenvironmental change during the Paleocene–Eocene thermal maximum in the Bighorn basin, Wyoming: Geological Society of America, Annual Meeting Program, v. 39, no. 6, p. 192.
- Xia, J., Miller, R. D., and Xu, Y., 2007, Data resolution matrix of high-frequency Rayleigh-wave phase velocities [abs.]: Symposium on the Application of Geophysics to Environmental and Engineering Problems (SAGEEP), Annual Meeting of the Environmental and Engineering Geophysical Society (EEGS), April 1–5, Denver, Colorado, 1 p.

## **Presentations**

- Battles, E.—Made two presentations at the 2007 Kansas Association of Mappers (KAM) Conference. The presentations were titled “The Kansas GIS Inventory” and “DASC Initiatives.”
- Battles, E.—Presented session on DASC history and current projects/initiatives at the 2007 Kansas Rural Water Association (KRWA) Conference.
- Battles, E.—Presented session on DASC initiatives focusing on the DASC Off Site Data Backup initiative at the 2007 Kansas Emergency Management Association (KEMA) Conference.
- Battles, E.—Gave the DASC presentation and demonstrated the DASC web site to a beginning GIS class for Kansas counties.
- Bohling, G. C., Butler, J. J., Jr., and Liu, G., 2007, High resolution aquifer characterization with hydraulic tomography and the direct-push permeameter, invited presentation to the Annual Meeting of the Association of Environmental and Engineering Geologists, Los Angeles, California, September 27.
- Butler, J. J., Jr., 2007 Henry Darcy Distinguished Lectureship Invited Presentations (in temporal order)—Univ. of Kansas, Emporia State Univ., Univ. of Missouri Kansas City, Kansas State Univ., San Diego State Univ., Univ. of Northern Arizona, Univ. of Arizona, Texas A&M Univ., Southwest Research Institute, Oklahoma State Univ., Univ. of Hawaii, Peking Univ., Chinese University of Geosciences, National Central Univ. (Taiwan), National Ground Water Assoc. Ground Water Summit, Los Alamos National Lab., Free Univ. of Brussels, Delft Univ. of Technology (The Netherlands), Univ. of Neuchatel (Switzerland), Univ. of Tübingen (Germany), Univ. of Göttingen (Germany), Univ. of Graz (Austria), Technical Univ. of Dresden, Helmholtz Centre for Environmental Research-UFZ (Leipzig, Germany), Polytechnic Univ. of Valencia, Polytechnic Univ. of Barcelona, Geological Society of London, Boise State Univ., Montana Tech, Univ. of Montana, Michigan State Univ., Western Michigan Univ., Univ. of Maryland Baltimore County, Penn State Univ., Univ. of Memphis, Univ. of Mississippi, Univ. of Alabama, Univ. of Illinois, Wright State Univ., Univ. of Colorado, Furman Univ., College of William and Mary, Colorado School of Mines, Canadian Geotechnical Soc. Conference, Geological Society of America Conf., Univ. at Buffalo, Univ. of Toronto, Stanford Univ., USGS-Menlo Park, Beloit College, Univ. of Wisconsin-Madison, New Mexico Inst. of Mining and Technology, Univ. of New Mexico, National Ground Water Assoc. Ground Water Exposition, and International Assoc. of Hydrogeologists XXXVI Congress (Toyama, Japan – given in 2008).
- Butler, J. J., Jr., 2007, Slug tests for hydrogeologic site characterization—Some practical guidelines: Invited teleconference presentation to the Earth Tech Site Investigation Technical Practice Group, July 31.
- Dealy, M.—Presentation on “Equus Beds Aquifer” at Wichita Gem and Mineral Society.
- Dealy, M.—Presentation on “Earthquakes” at Butler County History Center.

- Dealy, M.—Presentation on ,“Kansas Aquifers and Groundwater Basics” at Kansas Department of Health and Environment , Fall technical session.
- Dealy, M.—Presentation on “Wind Energy in Kansas” at Society of Manufacturing Engineers.
- Franseen, E. K., Invited presentation, “Miocene–Pliocene carbonate complexes in SE Spain research program,” at ExxonMobil Research Lab, Houston, Texas, September 27.
- Franseen, E. K., Invited presentation, “Update on Construction Aggregate Projects at the KGS,” Kansas Aggregate Producers Association 40<sup>th</sup> Annual Joint Convention, January 10–12, Kansas City.
- Kluitenberg, G. J., Butler, J. J., Jr., Nippert, J. B., Whittemore, D. O., Arnold, D., and Jin, W., 2007, Salt-cedar water use in the presence of a falling water table: Proceedings 24<sup>th</sup> Annual Water and Future of Kansas Conference, Topeka, Kansas, p. 17.
- Liu, G., Bohling, G., Butler, J. J., Jr., and Dietrich, P., Theoretical investigation of the direct-push permeameter for characterizing vertical variations in hydraulic conductivity: invited presentation at the Ninth International In Situ and On-Site Bioremediation Symposium, Baltimore, Maryland, May 7.
- Ludvigson, G. A., Developing approaches for understanding the hydrostratigraphic architecture of the Dakota Formation in Kansas: Kansas Geological Survey, Advisory Council, Lawrence, Kansas, May 17.
- Ludvigson, G. A., Investigation of soil-formed siderite and its contribution to global change research: Kansas Geological Survey, Advisory Council, Lawrence, Kansas, May 17.
- Ludvigson, G. A., Metrics of subtropical evaporation rates encoded in Mesozoic terrestrial carbonates—Some examples: Colorado Plateau Coring Project Workshop, co-sponsored by Drilling Observation & Sampling of the Earth’s Continental Crust, Inc. (DOSECC), and National Science Foundation, St. George, Utah, November 14.
- Macfarlane, P. A., and Ghijsen, R., 2007, Assessment of seasonal, pumping-induced water-quality changes in the Ozark Plateaus aquifer system: Water and the Future of Kansas Conference Program, p. 19.
- Mandel, R. D., “Buried Paleo-Indian landscapes in draws on the High Plains,” Technical Session, Geofest, Kansas Geological Survey, Lawrence, November 15.
- Mandel, R. D., “Holocene alluvial stratigraphy and soils,” U.S. Soil Geomorphology Institute Training Program, National Soil Survey Center, Lincoln, Nebraska, March 5.
- Mandel, R. D., “The peopling of the Great Plains—A geoarchaeological perspective,” Annual Kansas Earth Science Teachers Association (KESTA) Conference, Kansas Geological Survey, Lawrence, September 28.
- Mandel, R. D., “Soil geomorphology and archaeology,” U.S. Soil Geomorphology Institute Training Program, National Soil Survey Center, Lincoln, Nebraska, March 5.
- Miller, R. D.—Presentation at Geological Society of London Bicentenary Conference, September.
- Miller, R. D., 2007, Seismic search for caverns, caves, and voids: Kansas Department of Health and Environment, Geology Section Fall Seminar, Wichita, Kansas, October 23 (invited).
- Miller, R. D., 2007, Seismic to characterize the near surface: Proceedings of the Geological Society of London Bicentenary Conference, September 10 (invited).
- Miller, R. D., 2007, High-resolution seismic investigation of subsidence from dissolution: University of Leoben, Austria, November 13.
- Miller, R. D., 2007, Progress report on time-lapse high-resolution 3-D seismic imaging to monitor a CO<sub>2</sub> flood in a thin carbonate reservoir in the Hall–Gurney field, Kansas: Department of Energy, Tulsa, Oklahoma, February 21.
- Miller, R. D., Ivanov, J., Hock, S., Markiewicz, R., Dunbar, J., and Lane, J., 2007, Seismic investigations for dam safety: Kansas Dam Safety Conference, Topeka, Kansas, March 13 (invited).
- Miller, R. D., Markiewicz, R. D., Rademacker, T. R., Hopkins, R., Rawcliffe, R. J., and Paquin, J., 2007, Advantages of wet work for near-surface seismic reflection [exp. abs.]: Society of Exploration Geophysicists, p. 1,147–1,151.
- Newell, K. D., 2007, Techniques for determining gas content of well cuttings: Kansas Geological Society, Wichita Kansas, February 26.
- Newell, K. D., 2007, Coalbed gas resources in eastern Kansas: Emporia State University, Emporia, Kansas, October 25.
- Newell, K. D., 2007, What are the geologic and geochemical controls on eastern Kansas coal bed gas production?: University of Missouri–Kansas City, Kansas City, Missouri, November 1.
- Smith, J., 2007, Ichnology and paleopedology of the Willwood Formation, Bighorn basin, Wyoming through the Paleocene–Eocene thermal maximum—Response of soil ecosystems to a transient global warming event: Kansas Geological Survey, September 13.

- Smith, J., 2007, The occurrence and distribution of ichnofossils across the Paleocene–Eocene thermal maximum (PETM), Willwood Formation, Wyoming—The response of ancient soil biota to global warming: University of Kansas, Natural History Museum and Biodiversity Research Center, May 9.
- Sophocleous, M. A., Invited keynote speaker at the 2007 Pre-Forum of the 36<sup>th</sup> Congress of IAH in Toyama, Japan, August 10–11.
- Sophocleous, M. A., Invited presentation on the ecological impacts of conjunctive use, Theis Conference on Conjunctive Management of Ground Water and Surface Water—Application of Science to Policy, Park City, Utah, September 28–October 1.
- Sophocleous, M. A., Invited presentation at the Kansas Geological Society annual meeting on ground water sustainability and its application in Kansas, Kansas Geological Survey, Lawrence, Kansas, November 15.
- Sophocleous, M. A., Townsend, M., and Vocasek, F., 2007, Treated wastewater and nitrate transport beneath irrigated fields near Dodge City, Kansas: Water & the Future of Kansas Conference, March 15, Topeka, Kansas.
- Suchy, D. R., Gave talk on Kansas Geological Survey website resources at KDHE Geology Seminar, Wichita, KS.
- Suchy, D. R., Adkins–Heljeson, D., and Stewart, D. L., 2007, Seeking a source of ground water or managing a ground-water resource? Get the information you need (abs.): 24<sup>th</sup> Annual Water and the Future of Kansas Conference, Topeka, Kansas.
- Townsend, M. A., Macko, S. A., Sophocleous, M. A., Vocasek, F., Schutte, D., and Ghijsen, R., 2007, Variations in water chemistry and plant uptake of nitrogen at a wastewater irrigation site: Water & the Future of Kansas Conference, March 15, Topeka, Kansas.
- Whittemore, D. O., Sophocleous, M. A., Butler, J. J., Jr., Wilson, B. B., and Tsou, M-S., 2007, Ground-water flow model of the Middle Arkansas subbasin: 24<sup>th</sup> Annual Water and Future of Kansas Conference, Topeka, Kansas, p. 10.
- Wilson, B. B., Presentations to Ogallala Water Issue and Strategic Plan (WISP) Meeting Group, Kansas Geological Survey's Geofest, Kansas House Agriculture and Natural Resources Committee, Winfield Solutions Fall Conference, Kansas Water Congress Summer Conference, Kansas Water Authority, Poster at Kansas Rural Water Association Conference, and poster at Water and the Future of Kansas Conference.
- Xia, J.—High-frequency Rayleigh-wave method: Iowa State University Department of Geological and Atmospheric Sciences, August 31, 2007.
- Xia, J.—Surface-wave diffraction, slant stacking, and data resolution: Chengdu University of Technology, China, April 24, 2007.
- Xia, J.—Surface-wave diffraction, slant stacking, and data resolution: Southwest Jiaotong University, China, April 23, 2007.

## **Awards**

- Brady, L. L.—Honorary Member–Energy Minerals Division, American Association of Petroleum Geologists.
- Buchanan, R. C.—Kansas Association of Broadcasters, Editorial/Commentary for Non-Commercial Radio (third place), 2007
- Butler, J. J., Jr.—Henry Darcy Distinguished Lecturer, National Ground Water Association (2007).
- Franseen, E. K.—Nominated for Best Paper Award in The Leading Edge.
- Miller, R. D.—Project of Merit Award, SEG Foundation.
- Miller, R. D.—Selected Top 10 paper at SAGEEP EGS annual meeting, 2007.
- Smith, J.—Erasmus S. Haworth Distinguished Graduate Award, Ph.D., University of Kansas Department of Geology (2007).
- Sophocleous, M. A.—Elected Fellow, Geological Society of America.
- Walters, S. L.—William W. Hambleton Student Research Award, KGS.
- Xia, J.—Merriam Research Award, KGS.

## **Internal Service**

- Adkins–Heljeson, M.—Chaired search committee for KGS publications assistant.
- Adkins–Heljeson, M.—Produced maps and pdf's for KU School of Pharmacy and administration to present to the

Kansas Board of Regents proposing expansion of KU School of Pharmacy.

Battles, E.—Created a series of custom maps for week long annual tour sponsored by the University of Kansas Chancellor's office. The maps were titled “Wheat State Whirlwind: A Tour of the Heartland for KU Faculty.”

Battles, E.—Began development of Kansas base maps to be used in ArcServer map cache environment.

Butler, J. J.—University of Kansas—Student Advising—Postdoctorate Fellows: Wei Jin (2007–), Jesse Nippert (2007)

Carr, T. R.—University of Kansas, taught Graduate Seminar in Applied Subsurface Petroleum Geology, Geology 791, Chemical and Petroleum Engineering 628 (2001–2007).

Carr, T. R.—Supervised KU students Benjamin Rocke (M.S., 2007); Galo Sacedo (Ph.D., expected spring 2007) [Poster based on dissertation research received 2<sup>nd</sup> best student poster award at 2004 AAPG Annual Meeting in Dallas, Texas]; Nathan Winters (M.S., expected 2007); and Benjamin Ramaker (M.S., expected 2008).

Doveton, J.—KU courses taught: GEOL 536, Log Analysis of Subsurface Geology

Franseen, E. K.—Supervised KU graduate student thesis for Jessica Poteet.

Killion, M.—Served on the search committee for the Web Developer position at the Data Access and Support Center.

Ludvigson, G.—Jon J. Smith, Kansas Geological Survey, (Ph.D. 2007 University of Kansas, S.T. Hasiotis, advisor) September 2007–May 2009; KGS-sponsored research on Holocene and Neogene stratigraphy and paleoclimatology of the High Plains in western Kansas; NSF-sponsored research on neof ormation of pedogenic siderite in water-saturated soils.

Ludvigson, G.—Adel Haj, Kansas Geological Survey, (Ph.D. 2007 University of Iowa, E. A. Bettis, advisor) October 2006–August 2007; KGS-sponsored research on Holocene and Neogene stratigraphy and paleoclimatology of the High Plains in western Kansas (accepted appointment as Assistant Professor at Central Missouri State University).

Ludvigson, G.—Aisha Al-Suwaidi, M.S. 2007, The University of Kansas, A Ped’s Story: Weathering Out Climatic Change During the Mid-Cretaceous (Distinguished Graduate Scholar, United Arab Emirates; currently working on doctorate at Oxford University, United Kingdom).

Macfarlane, A.—Search Committee member for the KGS Analytical Services Lab Manager Position, 2007.

Mandel, R.—Advisor and committee chair for the dissertation at the University of Kansas, Jared Beeton, Department of Geography.

Mandel, R.—Member of KGS search committee for hiring a Post-Doctoral Research Associate specializing in Neogene stratigraphy and modern pedogenic processes in the Stratigraphic Research Section.

Mandel, R.—Committee member, KU Social Sciences General Research Fund.

Newell, K. D.—Merriam International Travel Awards Committee (Member, 2007).

Newell, K. D.—Search Committee for Analytical Chemist (Member, 2007–08).

Newell, K. D.—Search Committee for student petrophysical assistant (Member, 2007).

Newell, K. D.—Search Committee for Energy Research Section Chief, and geoscientist (Member, 2007–08).

Sorensen, J.—Member, Search Committee, Publication Sales, 2007.

Sorensen, J.—Member, Search Committee, Exploration Services, 2007.

Sorensen, J.—Member, Promotion & Review Committee, 2007 to present.

Suchy, D.—Helped run KGS booth at Lawrence Water Festival, Earth Day, April 21, including a poster on water data on the internet prepared for the event.

Xia, J.—Member, KGS Promotion and Review Committee, 2007-2009.

## **External Service**

Battles, E.—Updated Kansas Legislative Districts maps.

Battles, E.—Created county tax unit boundary reference maps for Administrative Boundaries/Tax Units data project.

Battles, E.—Created series of statewide Initiatives status maps for the KAC conference.

Battles, E.—Served as Chairperson for the Technical Advisory Committee (TAC) Land Use/Geology/Soils data committee.

Battles, E.—Served on the Kansas GIS Strike Force – this group visited several counties and made presentations to promote the Kansas GIS Inventory.

Buchanan, R.—Geological Society of America, Geology and Public Policy Committee, Geology and Society Division Representative, 2007–present; Nominations Committee, History of Geology Division, 2007–09.

Buchanan, R.—Kansas Energy Council, State Geologist’s Designee, 2007–08.

- Buchanan, R.—Association of American State Geologists, Associates' Representative to the Executive Committee, 2007–08; Outreach Committee, 2007–present.
- Butler, J.—Associate Editor—Hydrogeology Journal (2006–)
- Butler, J.—John Keller doctoral dissertation, Department of Geology, Southern Illinois University (2007–).
- Butler, J.—Promotion and Tenure Evaluator—Department of Geological Sciences, University of Hawaii (2007); Department of Environmental Engineering and Earth Science, Clemson University (2007).
- Butler, J.—Aquifer Testing for Improved Hydrogeologic Site Characterization Featuring AQTESOLV and the In-Situ LevelTroll (taught half of course), Fort Collins, Colorado, October 16–17; Calgary, Alberta, August 16–17.
- Butler, J.—Advanced Aquifer Testing Analysis Featuring AQTESOLV: New Concepts, Field Methods, and Data Analysis Procedures (taught half of course), University of San Diego, California, February 27–March 1.
- Carr, T.—Testimony before the Kansas House Energy and Utilities Committee on Energy, January 18; testimony before the Kansas Senate Energy Committee on Heavy Oil, January 30.
- Doveton, J.—PTTC Workshop “The Pfeiffer Workshop,” October 12, Lawrence, Kansas.
- Doveton, J.—PEMEX “Prediction of permeability from logs,” August 20–25, Villahermosa, Mexico.
- Doveton, J.—ONGC Short Course on “Advances in Well Log Applications,” January 15–19, Dehradun, India.
- Doveton, J.—PTTC Short Course on “Reading the Rocks from Wireline Logs,” March 9, Lawrence, Kansas.
- Doveton, J.—PDVSA “Prediction of permeability from logs,” February 5–9, Maracaibo, Venezuela.
- Doveton, J.—SMU Geology Department “Crash Course on Log Analysis,” February 24, Dallas, Texas.
- Doveton, J.—QGS “Geological Log Analysis,” March 14, Houston, Texas.
- Doveton, J.—QGS “Permeability Predictors from Logs,” March 15, Houston, Texas.
- Doveton, J.—P. T. Geoservices “Reservoir Petrophysical Log Analysis,” April 23–27, Bandung, Indonesia.
- Doveton, J.—American Association of Petroleum Geologists, Midcontinent Meeting Short Course “Introduction to Well Logging in Kansas,” Wichita, Kansas, September 9.
- Doveton, J.—CSPG Education Week “Petroleum Log Analysis and Petrophysical Geology,” October 30–31, Calgary, Canada.
- Dunham, J.—“Geologic mapping at the Kansas Geological Survey,” Kansas GIS Policy Board bimonthly meeting, Topeka, KS, September 22; Kansas Geological Survey Advisory Council semiannual meeting, Lawrence, Kansas, February 9.
- Dunham, J.—A/V and Computer Chair, Geological Society of America South-Central Section and North-Central Section Meeting, University of Kansas, Lawrence, Kansas, April 11–13.
- Franseen, E.—Field trip leader for University of Kentucky geologists to Lansing–Kansas City Group (Pennsylvanian) cyclothemic strata in NE Kansas.
- Franseen, E.—Instructor and field trip leader, ExxonMobil Carbonate Intern Training Course, Almeria, Spain.
- Franseen, E.—Co-instructor for American Association of Petroleum Geologists Education Program, “Controls on porosity types and distribution in carbonate reservoirs,” Almeria, Spain.
- Killion, M.—Served on the Technical Advisory Committee of the Kansas GIS Policy Board.
- Ludvigson, G.—StateMap Program Coordinator.
- Ludvigson, G.—General Chair, Combined Geological Society of America SC–NC Section Meeting, Lawrence, Kansas, April 11–13.
- Macfarlane, A.—Second Vice President, Central Section, National Association of Geoscience Teachers, 2007–08.
- Mandel, R.—Served as an external member of a dissertation or master's committee for DeAnn Presley, Department of Agronomy, Kansas State University, Ph.D.
- Mandel, R.—Associate Editor, *Geoarchaeology: An International Journal*, John Wiley & Sons, January, May 2007–present.
- Mandel, R.—Guest speaker, “The peopling of the Great Plains: A geoarchaeological perspective,” annual Kansas Earth Science Teachers Association (KESTA) Conference, Kansas Geological Survey, Lawrence, September 28.
- Mandel, R.—Field trip leader to the Claussen site in northeastern Kansas, for the Kansas Earth Science Teachers Association (KESTA) Conference, Kansas Geological Survey, September 29.
- Mandel, R.—Co-organizer and co-chair of a symposium, “Geoarchaeological and geomorphological explorations in the midcontinent: In honor of Wakefield Dort, Jr.,” 41st Annual Meeting of the South-Central Section/North-Central Section of the Geological Society of America, Lawrence, Kansas, April.
- Mandel, R.—Co-organizer and co-chair of a symposium, “Late Pleistocene and Holocene paleoecology and archaeology at the Richard Beene site, coastal plain, south-central North America,” 72nd Annual Meeting of the Society for American Archaeology, Austin, Texas, April.
- Mandel, R.—Reviewer for the National Science Foundation's Paleo Perspectives on Climate Change Program.



Mandel, R.—Reviewer for the National Geographic Society’s Funded Research Program.

Miller, R.—Society of Exploration Geophysicists, Committee on Nominations, 2007–09.

Miller, R.—Society of Exploration Geophysicists, Special Issue Editor, *The Leading Edge*: February (v. 26, no. 2), lower 48; August (v. 26, no. 8), near-surface/seismic to radar.

Newell, D.—Session co-chair for Oil and Gas Resources of the Midcontinent, American Association of Petroleum Geologists 2007 Midcontinent Section Meeting, Wichita, Kansas, September 10.

Smith, J.—Co-chaired theme session (Fossils and modern analogs: Using modern organisms to improve paleontological interpretations with Daniel Hembree and Brian Platt) for Geological Society of America, South- and North-Central Joint Section Meeting.

Sophocleous, M.—Editor in Chief, *Journal of Hydrology*, April 1999–December 2007.

Sophocleous, M.—Technical Program co-chair for 2007 Joint South-Central and North-Central Sections Annual Meeting to be held in Lawrence, Kansas, April 11–13 April.

Sophocleous, M.—Member of the O. E. Meinzer award selection committee for the Geological Society of America, Hydrogeology Division (2007–09).

Sophocleous, M.—Co-convenor of the 2007 Theis Conference “Conjunctive Management of Ground Water and Surface Water: Application of Science to Policy,” Park City, Utah, September 28–October 1.

Sophocleous, M.—Invited reviewer for the Legislative–Citizen Commission on Minnesota Resources.

Sophocleous, M.—Invited reviewer for the Canada Research Chairs Program.

Sophocleous, M.—Member of the Advising Committee for the Department of Environmental Management of the Cyprus University of Technology (2007–Present).

Suchy, D.—Served as Exhibits and Sponsors Chair and on organizing committee for joint meeting of South-Central and North Central Sections of Geological Society of America held at KU.

Suchy, D.—Helped review Kansas Response Plan for Kansas Division of Emergency Management.

Suchy, D.—Helped run Kansas Geological Survey booth at Lawrence Water Festival, Earth Day, including a poster on water data on the internet prepared for the event.

Suchy, D.—Helped run rock and fossil identification booth at KU Natural History Museum event, entitled “What on Earth? Fossils, Rocks, and Meteorites.”

Watney, L.—Co-chair, Technical Program, Midcontinent American Association of Petroleum Geologists meeting, Wichita, Kansas, September.

Watney, L.—Pfeffer Log Analysis and Web Tools Workshop, Wichita, Kansas, November.

Wilson, B.—Kansas Technical Advisory Committee and the DASC Sub-committee to the Kansas GIS Policy Board.

Xia, J.—Session Chairman, The Society of Exploration Geophysicists, 77th Annual Meeting, September 23–28, 2007, San Antonio, Texas.

## 2006

### Refereed Publications

- Arabi, M., Govindaraju, R. S., Sophocleous, M., and Koelliker, J. K., 2006, Use of distributed models for watershed management—Case studies; *in*, Watershed Models, V. P. Singh and D. K. Frevert, eds.: CRC Press, Taylor & Francis Books, Inc., New York, p. 503–526.
- Baker, R. G., Fredlund, G. G., Towne, G., Mandel, R. D., and Johnson, W. C., 2006, Late Quaternary biogeography and paleoecology along the prairie-forest border, USA; *in*, Guidebook of the 18<sup>th</sup> Biennial Meeting of the American Quaternary Association, R. D. Mandel, ed.: Kansas Geological Survey, Technical Series 21, p. 2-1–2-27.
- Bohling, G. C., and Doveton, J. H., 2006, The Oz machine—A Java applet for interactive instruction in geological log interpretation: *Geosphere*: v. 2, no. 5, p. 269–274.
- Brosius, L., 2006, Windows to the past—A guidebook to common invertebrate fossils of Kansas: Kansas Geological Survey, Educational Series 16, 56 p.
- Butler, J. J., Jr., Zlotnik, V. A., and Tsou, M. S., 2006, Drawdown and stream depletion produced by pumping in the vicinity of a partially penetrating stream, by James J. Butler, Jr., Vitaly A. Zlotnik, and Min-Shu Tsou, September–October 2001 issue, v. 39, no. 5, p. 651–659; authors’ reply: *Ground Water*, v. 44, no. 2, p. 143.

- Byrnes, A. P., and Bhattacharya, S., 2006, Influence of initial and residual oil saturation and relative permeability on recovery from transition zone reservoirs in shallow shelf carbonates: SPE/DOE Symposium on Improved Oil Recovery, Tulsa, April 22–26, SPE 99736, 11 p.
- Chen, C., Liu, J., Xia, J., and Li, Z., 2006, Integrated geophysical techniques in detecting hidden dangers in river embankments: *Journal of Environmental and Engineering Geophysics*, v. 11, no. 2, p. 83–94.
- Chen, C., Xia, J., Liu, J., and Feng, G., 2006, Nonlinear inversion of potential-field data using a hybrid-encoding genetic algorithm: *Computers & Geosciences*, v. 32, no. 2, p. 230–239.
- Cruz, F. E., Eberli, G. P., and Byrnes, A. P., 2006, Petrophysical heterogeneity of a Pleistocene oolitic shoal—Lessons for ancient reservoirs; *in*, *Reservoir Characterization—Integrating Technology and Business Practices*, R. M. Slatt et al., eds: Bob F. Perkins Research Conference, 26<sup>th</sup> Annual Gulf Coast Section SEPM Foundation.
- Davis, J. C., Chung, C.-J., and Ohlmacher, G. C., 2006, Two models for evaluating landslide hazards: *Computers and Geoscience*, v. 32, p. 1,120–1,127.
- Devlin, J. F. and Sophocleous, M. A., 2006, Reply to comment on “The persistence of the water budget myth and its relationship to sustainability” by J. F. Devlin and M. Sophocleous, *Hydrogeology Journal*, v. 13, no. 4, p. 549–554; *Hydrogeology Journal*, v. 14, no. 7, p. 1,386.
- Doveton, J. H., 2006, Markov chain petrophysical simulation of flow-unit architecture in carbonate and clastic subsurface formations: *Proceedings, IAMG-06, S12—Stochastic Modeling of Subsurface Formations*, 4 p.
- Doveton, J. H., 2006, Methods and applications of hierarchical zonation of petrophysical logs using polynomial filters: *Proceedings, IAMG-06, S11—Innovative Techniques in Geomathematics*, 4 p.
- Dubois, M. K., Bohling, G. C., and Chakrabarti, S., 2006, Comparison of four approaches to a rock facies classification problem: *Computers and Geosciences*, v. 33, no. 3, p. 599–617.
- Dubois, M. K., Byrnes, A. P., Carr, T. R., Bohling, G. C., and Doveton, J. H., 2006, Multiscale geologic and petrophysical modeling of the giant Hugoton gas field (Permian), Kansas and Oklahoma; *in*, *Giant Hydrocarbon Reservoirs of the World—From Rocks to Reservoir Characterization and Modeling*, P. M. Harris and L. J. Webber, eds.: American Association of Petroleum Geologists, Memoir 88, p. 309–355.
- Franseen, E. K., 2006, Mississippian (Osagean) shallow-water, mid-latitude siliceous sponge spicule and heterozoan carbonate facies—An example from Kansas with implications for regional controls and distribution of potential reservoir facies; *in*, *Current Research in Earth Sciences: Kansas Geological Survey, Bulletin 252*, part 1, 23 p.; available online at <http://www.kgs.ku.edu/Current/2006/franseen/index.html>.
- Gröcke, D. R., Ludvigson, G. A., Witzke, B. J., Robinson, S. R., Joeckel, R. M., Ufnar, D. F., and Ravn, R. L., 2006, Recognizing the Albian–Cenomanian (OAE1d) sequence boundary using plant carbon isotopes—Dakota Formation, Western Interior basin, USA: *Geology*, v. 34, no. 3, p. 193–196.
- Guinotte, J. M., Bartley, J. D., Iqbal, A., Fautin, D. G., and Buddemeier, R. W., 2006, Modeling habitat distribution from organism occurrences and environmental data: case study using anemonefishes and their sea anemone hosts: *Marine Ecology, Progress Series*, v. 316, p. 269–283.
- Holliday, V. T., and Mandel, R. D., 2006, Paleoindian geoarchaeology of the Southwest, Great Plains, and Central Lowlands; *in*, *Handbook of North American Indians—Origins of Native Americans*, Dennis Stanford, ed.: Washington, D.C., Smithsonian Institution Press, p. 23–46.
- Ivanov, J., Miller, R. D., Lacombe, P., Johnson, C. D., and Lane, J. W., Jr., 2006, Delineating a shallow fault zone and dipping bedrock strata using multichannel analysis of surface waves with a land streamer: *Geophysics*, v. 71, no. 5, p. A39–A42.
- Ivanov, J., Miller, R. D., Stimac, N., Ballard, R. F., Dunbar, J. B., and Smullen, S., 2006, Time-lapse study of levees in southern New Mexico [exp. abs.]: Society of Exploration Geophysicists, Annual Meeting, New Orleans, Louisiana, October 1–6, p. 3,255–3,258.
- Ivanov, J., Miller, R. D., Xia, J., Steeples, D., and Park, C. B., 2006, Joint analysis of refractions with surface waves—An inverse solution to the refraction-traveltime problem: *Geophysics*, v. 71, no. 6, p. R131–R138.
- Ivanov, J., Xia, J., and Miller, R. D., 2006, Optimizing horizontal-resolution improvement of the MASW method: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2006), Seattle, Washington, April 2–6, Paper 115, p. 1,128–1,134.
- Lambrecht, J. L., and Miller, R. D., 2006, Catastrophic sinkhole formation in Kansas—A case study: *The Leading Edge*, v. 25, no. 3, p. 342–347.
- Liu, G., Zhang, D., and Lu, Z., 2006, Stochastic uncertainty analysis for unconfined flow systems: *Water Resources Research*, v. 42, no. 9, 10.
- Luo, Y., Liu, J., Xia, J., Xu, Y., and Liu, Q., 2006, Estimation of pseudo-2D shear-velocity section by inversion of high frequency surface waves: Society of Explorations Geophysicists, 76th Annual Meeting, New Orleans, Louisiana, Technical Program with Biographies, p. 1,510–1,513.

- Luo, Y., Liu, J., Xu, Y., Xia, J., and Liu, Q., 2006, Influence of body waves on surface wave dispersion curves: Proceedings of the 2006 International Conference on Environmental and Engineering Geophysics (ICEEG), June 4–9, Wuhan, China, p. 114–118.
- Luo, Y., Xia, J., Liu, J., Liu, Q., and Xu, S., 2006, Joint inversion of high frequency surface waves with fundamental and higher modes: Proceedings of the 2006 International Conference on Environmental and Engineering Geophysics (ICEEG), June 4–9, Wuhan, China, p. 79–84.
- Macfarlane, P. A., Bohling, G., Thompson, K. W., Townsend, M. A., 2006, Helping students make the transition from novice learner of ground-water concepts to expert using the Plume Busters software: Journal of Geoscience Education, v. 54, no. 5, p. 610–619.
- Macfarlane, P. A., and Wilson, B. B., 2006, Enhancement of the bedrock-surface-elevation map beneath the Ogallala portion of the High Plains aquifer, western Kansas: Kansas Geological Survey, Technical Series 20, 28 p., 2 pls.
- Machavaram, M. V., Whittemore, D. O., Conrad, M. E., and Miller, N. L., 2006, Precipitation induced stream flow—An event based chemical and isotopic study of a small stream in the Great Plains region of the USA: Journal of Hydrology, v. 330, p. 470–480.
- Mandel, R. D., 2006, The effects of late Quaternary landscape evolution on the archaeology of Kansas; *in*, Kansas Archaeology, R. J. Hoard and W. E. Banks, eds.: University of Kansas Press, Lawrence, Kansas, p. 46–75.
- Mandel, R. D., ed., 2006, Guidebook of the 18<sup>th</sup> biennial meeting of the American Quaternary Association: Kansas Geological Survey, Technical Series 21, 146 p.
- Mandel, R. D., 2006, Late Quaternary and modern environments in Kansas: *in*, Kansas Archaeology, R. J. Hoard and W. E. Banks, eds.: University of Kansas Press, Lawrence, Kansas, p. 28–45.
- Mandel, R. D., and Hofman, J. L., 2006, Trip 4, stop 2, Simshauser site (15KY102) and Mattox Draw; *in*, Guidebook of the 18<sup>th</sup> Biennial Meeting of the American Quaternary Association, R. D. Mandel, ed.: Kansas Geological Survey, Technical Series 21, p. 4-9–4-16.
- Mandel, R. D., and Hofman, J. L., 2006, Trip 4, stop 3, the Winger site (14ST401) and Mattox Draw; *in*, Guidebook of the 18<sup>th</sup> Biennial Meeting of the American Quaternary Association, R. D. Mandel, ed.: Kansas Geological Survey, Technical Series 21, p. 4-17–4-25.
- Mandel, R. F., Hofman, J., Bement, L., and Carter, B., leaders, 2006, Introduction, AMQUA post-meeting field trip 4, Late Quaternary alluvial stratigraphy and geoarcheology in the central Great Plains, p. 4–1; *in*, Guidebook of the 18th Biennial Meeting of the American Quaternary Association, R. D. Mandel, ed.: Kansas Geological Survey, Technical Series 21, var. pag.
- Mandel, R. D., Widga, C., Hofman, J. L., Ryan, S., and Bruner, K., 2006, Trip 4, stop 1, the Claussen site (14WB322); *in*, Guidebook of the 18<sup>th</sup> Biennial Meeting of the American Quaternary Association, R. D. Mandel, ed.: Kansas Geological Survey, Technical Series 21, p. 4-2–4-8.
- Marple, R., and Miller, R. D., 2006, Association of the 1886 Charleston, South Carolina, earthquake and seismicity near Summerville with a 12° bend in the East Coast fault system and triple-fault junctions: Southeastern Geology, v. 44, no. 3, p. 101–128.
- Miller, R. D., 2006, High-resolution seismic reflection to identify areas with subsidence potential beneath U.S. 50 Highway in eastern Reno County, Kansas: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2006), Seattle, Washington, April 2–6, Paper 28, 13 p.
- Miller, R. D., 2006, High-resolution seismic reflection to identify areas with subsidence potential beneath U.S. 50 Highway in eastern Reno County, Kansas: Symposium on the Application of Geophysics to Engineering and Environmental Problems [ext. abs.]; selected as a best paper from SAGEEP06, presented at Near Surface 2006, Helsinki, Finland, September 4–6, 5 p. Published on CD.
- Miller, R. D., 2006, Introduction to this special section—Geophysics and public safety: The Leading Edge, v. 25, no. 3, p. 305.
- Miller, R. D., 2006, Introduction to this special section—Hydrogeophysics: The Leading Edge, v. 25, no. 6, p. 713.
- Miller, R. D., and Millahn, K., 2006, High-resolution seismic reflection investigations of dissolution sinkholes [ext. abs.]: European Association of Geoscientists and Engineers (EAGE), 68th Conference and Exhibition, Vienna, Austria, June 12–15, 4 p. Published on CD.
- Miller, R. D., Steeples, D. W., Lambrecht, J. L., and Croxton, N., 2006, High-resolution seismic-reflection imaging 25 years of change in I-70 sinkhole, Russell, County, Kansas [exp. abs.]: Annual Meeting of the Society of Exploration Geophysicists, New Orleans, LA, October 1–6, p. 1,411–1,414.
- Miller, R. D., Steeples, D. W., Xia, J., Rademacker, T. R., and Lambrecht, J. L., 2006, Seismic reflection characteristics of subsidence affecting transportation: Keynote Presentation, Proceedings of the International Conference on Environmental and Engineering Geophysics, Wuhan, China, June 4–9, p. 2–9.

- Neuhauser, K. R., 2006, Geologic map of Osborne County, Kansas: Kansas Geological Survey, Map Series M-102, 1 sheet, scale 1:50,000.
- Park, C. B., and Miller, R. D., 2006, Roadside passive MASW: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2006), Seattle, Washington, April 2–6, 12 p.
- Qi, L., and Carr, T. R., 2006, Neural network prediction of carbonate lithofacies from well logs, Big Bow and Sand Arroyo Creek fields, southwest Kansas: *Computers and Geosciences*, v. 32, no. 7, p. 947–964.
- Qi, L., Carr, T. R., and Goldstein, R. H., 2006, Geostatistical three-dimensional modeling of oolite shoals, St. Louis Limestone, southwest Kansas: *American Association of Petroleum Geologists, Bulletin*, v. 91, p. 69–96; (Student Publication); <http://search.datapages.com/data/bulletns/2007/01jan/BLTN05167/IMAGES/BLTN05167.PDF>.
- Sawin, R. S., West, R. R., Franseen, E. K., Watney, W. L., and McCauley, J. R., 2006, Carboniferous Permian boundary in Kansas, midcontinent, U.S.A.; *in*, *Current Research in Earth Sciences: Kansas Geological Survey, Bulletin 252*, part 2 (<http://www.kgs.ku.edu/Current/2006/sawin/index.html>).
- Smith, J. J., Hasiotis, S. T., and Fritz, W. J., 2006, Stratigraphy and sedimentology of the Upper Jurassic Morrison Formation, Dillon, Montana; *in*, *Paleontology and Geology of the Upper Jurassic Morrison Formation*, J. R. Foster and S. G. Lucas, eds.: *New Mexico Museum of Natural History and Science, Bulletin*, v. 36, p. 1–7.
- Sophocleous, M. A., Bardsley, W. E., and Healey, J., 2006, A rainfall loading response recorded at 300 meters depth—Implications for geological weighing lysimeters: *Journal of Hydrology*, v. 319, no. 1–4, p. 237–244.
- Tsou, M.-S., Perkins, S. P., Zhan, X., Whittemore, D. O., and Zheng, Z., 2006, Inverse approaches with lithologic information for a regional groundwater system in southwest Kansas: *Journal of Hydrology*, v. 318, no. 1–4, p. 292–300.
- Walters, S. L., Miller, R. D. and Raef, A. E., 2006, Repeatability observations from a time-lapse seismic survey [exp. abs.]: *Society of Exploration Geophysicists, New Orleans, Louisiana, October 1–6*, p. 3,185–3,188.
- White, S. W., 2006, Net energy payback and CO<sub>2</sub> emissions from three Midwestern wind farms—An update: *Natural Resources Research*, v. 15, no. 4, p. 271–281.
- Wilson, T., and Miller, R. D., 2006, Introduction to this special section—Carbon sequestration/EOR: *The Leading Edge*, v. 25, no. 10, p. 1,262–1,263.
- Xia, J., and Doll, B. W., 2006, Introduction to Special Issue—Geophysics in China: *Journal of Environmental and Engineering Geophysics*, v. 11, no. 2.
- Xia, J., and Miller, R. D., 2006, Applications of integrated geophysical survey in defining subsidence features on a golf course: *Proceedings of the Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP) Annual Meeting of the Environmental and Engineering Geophysical Society (EEGS)*, April 2–6, Seattle, Washington, p. 162–173.
- Xia, J., Nyquist, J. E., Xu, Y., and Roth, M. J. S., 2006, Feasibility of detecting voids with Rayleigh-wave diffraction: *Proceedings of the Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP) Annual Meeting of the Environmental and Engineering Geophysical Society (EEGS)*, April 2–6, Seattle, Washington, p. 1,168–1,180.
- Xia, J., Xu, Y., Chen, C., Kaufmann, R. D., and Luo, Y., 2006, Simple equations guide high-frequency surface-wave investigation techniques: *Soil Dynamics and Earthquake Engineering*, v. 26, no. 5, p. 395–403.
- Xia, J., Xu, Y., Miller, R. D., and Chen, C., 2006, Estimation of elastic moduli in a compressible Gibson half-space by inverting Rayleigh wave phase velocity: *Survey of Geophysics*, v. 27, no. 1, p. 1–17.
- Xia, J., Xu, Y., Miller, R. D., and Chen, C., 2006, New developments in analysis of high-frequency Rayleigh waves (keynote presentation): *Proceedings of the 2006 International Conference on Environmental and Engineering Geophysics (ICEEG)*, June 4–9, Wuhan, China, p. 10–18.
- Xia, J., Xu, Y., Miller, R. D., and Nyquist, J. E., 2006, Rayleigh-wave diffractions due to a void in the layered half space [exp. abs.]: *Society of Exploration Geophysicists, New Orleans, Louisiana, October 1–6*, p. 1,406–1,409.
- Xu, Y., Xia, J., and Chen, C., eds., 2006, *Geophysical solutions for environment and engineering: Proceedings of the 2<sup>nd</sup> International Conference on Environmental and Engineering Geophysics (ICEEG)*, June 4–9, Wuhan, China; Science Press USA Inc. (two volumes), 1,166 p.
- Xu, Y., Xia, J., and Miller, R. D., 2006, Quantitative estimation of minimum offset for multichannel surface-wave survey with actively exciting source: *Journal of Applied Geophysics*, v. 59, no. 2, p. 117–125.
- Zhan, X. Y., and Butler, J. J., Jr., 2006, KGS-HighK, a Fortran 90 program for simulation of hydraulic tests in highly permeable aquifers: *Computers and Geosciences*, v. 32, no. 5, p. 704–707.

## **Patent**

Goldstein, R. H., Franseen, E. K., and Emry, J., co-inventors, 2006, Spectral scintillometry as a first-cut method for evaluating aggregate durability: University of Kansas, patent pending.

## **Nonrefereed/Unpublished Papers**

- Bhattacharya, S., Dubois, M., and Byrnes, A. P., 2006, Reservoir simulation of 12-section Graskell area—Chase/Council Grove reservoir systems: Kansas Geological Survey, Open-file Report 2006–26, 62 p.
- Bhattacharya, S., Dubois, M., and Byrnes, A. P., 2006, Reservoir simulation of Hoobler study area—Chase/Council Grove reservoir systems: Kansas Geological Survey, Open-file Report 2006–27, 70 p.
- Bohling, G. C., 2006, Exploring stochastic flow models with locally linear embedding: International Association for Mathematical Geology, XIth International Congress, Liege, Belgium, September 3–6, 3 p.
- Bohling, G. C., 2006, ConDoor—A Java front end for the CONOP stratigraphic event sequencing software: International Association for Mathematical Geology, XIth International Congress, Liege, Belgium, September 3–6, 4 p.
- Bohling, G. C., and Wilson, B. B., 2006, Statistical and geostatistical analysis of the Kansas High Plains water-table elevations, 2006 measurement campaign: Kansas Geological Survey, Open-file Report 2006–20, 40 p.
- Brady, L. L., and Newell, K. D., 2006, Kansas coal and coalbed methane—an overview; *in*, 2nd Midcontinent Coalbed Methane Symposium Field Trip—Overview of Coal and Coalbed Methane in the Cherokee Basin, Northeast Oklahoma, B. J. Cardott, L. L. Brady, and K. D. Newell, leaders: Kansas Geological Survey, Open-File Report 2006–28, p. 90–110.
- Brohammer, M., Bennett, B., Grafel, M., and Dietrich, J., 2006, 2006 Water level data acquisition statistics: Kansas Geological Survey, Open-file Report 2006–47; <http://www.kgs.ku.edu/Magellan/WaterLevels/index.html>; <http://www.kgs.ku.edu/Hydro/Levels/index.html>.
- Brosius, L., 2006, Invertebrate fossils of Kansas: Kansas Geological Survey, Public Information Circular 24, 6 p.
- Cardott, B. J., Newell, K. D., and Brady, L. L., 2006, Overview of coal and coalbed methane in the Cherokee basin, northeast Oklahoma: Fieldtrip guidebook for the Mid-Continent Coalbed Methane and Gas Shale Symposium II, Tulsa, OK, October, 24, 2006, Oklahoma Geological Survey and Kansas Geological Survey, p. 90–109; Kansas Geological Survey, Open-file Report 2006–28, 110 p.
- Carr, T. R., 2006, Fiscal year 2006 Kansas oil and gas production by operator: Kansas Geological Survey, Open-file Report 2006–31; <http://www.kgs.edu/PRS/publication/2006/ofr2006-31/index.html>.
- Carr, T. R., and Newell, K. D., 2006, Geologic controls on coalbed natural gas production in eastern Kansas coals—Symposium on coalbed methane and gas shales in the southern midcontinent: Oklahoma Geological Survey Seminar on Unconventional Gas, Proceedings March 2006, p. 1–18.
- Dubois, M. K., 2006, Paleoslope and water depth estimate, lower Wolfcampian, Hugoton embayment of the Anadarko basin: Kansas Geological Survey, Open-file Report 2006–30, 21 p.; [http://www.kgs.ku.edu/PRS/publication/2006/OFR06\\_30/index.html](http://www.kgs.ku.edu/PRS/publication/2006/OFR06_30/index.html).
- Dubois, M. K., Byrnes, A. P., Bohling, G. C., and Doveton, J. H., 2006, Multiscale geologic and petrophysical modeling of the giant Hugoton gas field (Permian), Kansas and Oklahoma: Kansas Geological Survey, Open-file Report 2006–12; <http://www.kgs.ku.edu/PRS/publication/2006/2006-12/index.html>.
- Dunham, J. W. and Bartley, J. W., 2006, Comparison of calculated state center points for Kansas (map): Kansas Geological Survey, Open-file Report 2006–10, 1 sheet.
- Ivanov, J., and Miller, R. D., 2006, Decomposition results of multi-impact source sequence records: Kansas Geological Survey, Open-file Report 2006–24, 10 p.
- Ivanov, J., and Miller, R. D., 2006, New Orleans levee strength evaluations using the MASW method: Kansas Geological Survey, Open-file Report 2006–49, 18 p.
- Johnson, W. C., and Woodburn, T., 2006, Preliminary geologic field maps of portions of Norton County, Kansas: Kansas Geological Survey, Open-file Report 2006–17, 2 p., 18 sheets, scale 1:24,000.
- Kansas Geological Survey, 2006, Annual report, 2005: Kansas Geological Survey, Lawrence; <http://www.kgs.ku.edu/Publications/AnnRep05/ARindex.html>.
- Lueck, E. J., and Mandel, R. D., 2006, Archeological survey—Cedar River drainage in Nance, Bone, and Greeley counties, Nebraska, 2005–2006: Archeology Laboratory, Augustana College, Sioux Falls, South Dakota, Archeological Contract Series No. 204.

- Mandel, R. D., 2006, Geoarchaeological investigation of the proposed NGL Liquid Pipeline, south-Central Kansas: Kansas Geological Survey, Report of Investigations.
- Mandel, R. D., 2006, Geoarchaeological reconnaissance of the Overland Pass Pipeline Project area; *in*, Phase II Archeological Survey for the Kansas Portion of the Proposed Overland Pass Pipeline Project in Cheyenne, Rawlins, Thomas, Sheridan, Graham, Gove, Trego, Ellis, Russell, Barton, Ellsworth, Rice and McPherson Counties, Kansas, J. McLean, ed.: Report submitted to the Natural Resources Group, BLM Project Number WYW-166510, R. Christopher Goodwin & Associates, Frederick, Maryland, p. A.1–A.28.
- Mandel, R. D., 2006, Geoarchaeological testing of the Overland Pass Pipeline Project area; *in*, Phase II Archeological Survey for the Kansas Portion of the Proposed Overland Pass Pipeline Project in Cheyenne, Rawlins, Thomas, Sheridan, Graham, Gove, Trego, Ellis, Russell, Barton, Ellsworth, Rice and McPherson Counties, Kansas, J. McLean, ed.: Report submitted to the Natural Resources Group, BLM Project Number WYW-166510, R. Christopher Goodwin & Associates, Frederick, Maryland, p. B.1–B.30.
- Mandel, R. D., 2006, Geomorphological investigation; *in*, Archaeological Excavations at Sites 39BF205, 38BF206 and 39BF211, Crow Creek Sioux Indian Reservation, Buffalo County, South Dakota, L. Palmer and A. Hannus, eds.: Archeology Laboratory, Augustana College, Sioux Falls, South Dakota, Archeological Contract Series No. 197, p. 3.1–3.106.
- Mandel, R. D., 2006, Geomorphology of the Hopewell Culture NHP Archeological Site 33RO1059, south-central Ohio: Kansas Geological Survey, Report of investigations submitted to the National Park Service.
- Mandel, R. D., 2006, Geomorphology, Quaternary stratigraphy, and geoarchaeology of Fox Creek valley, Tallgrass Prairie National Preserve, northeast Kansas: Kansas Geological Survey, Open-file Report 2006–29, 51 p.
- Mandel, R. D., 2006, Geomorphology and stratigraphy of site 23SH23, Akers Ferry, Ozark National Scenic Waterway, southeast Missouri: Kansas Geological Survey, Report of investigations submitted to the National Park Service.
- McCauley, J. R., 2006, Preliminary geologic field maps of portions of Dickinson County, Kansas: Kansas Geological Survey, Open-file Report 2006–16 2 p., 12 sheets, scale 1:24,000.
- Merriam, D. F., Charlton, J. R., and Hambleton, W. W., 2006, Kansas geology as landscape art, interpretation of geology from artistic works: Kansas Geological Survey, Open-file Report 2006–11; [http://www.kgs.ku.edu/Publications/OFR/2006/OFR06\\_11.html](http://www.kgs.ku.edu/Publications/OFR/2006/OFR06_11.html).
- Miller, R. D., Ivanov, J., and Walters, S. L., 2006, Continuation of research in seismic techniques for characterizing levees: Kansas Geological Survey, Open-file Report 2006–48, 38 p.
- Newell, K. D., 2006, Analysis of Cherokee Group cuttings samples for gas content—Dart Cherokee Basin Operating Company #D1–30 Kincaid Trust, SW SW sec. 30, T. 34 S., R. 14 E., Montgomery County, Kansas: Kansas Geological Survey, Open-file Report 2006–33, 25 p.
- Newell, K. D., 2006, Analysis of Cherokee Group cuttings samples for gas content—Dart Cherokee Basin Operating Company #D3–7 C. Bonner well (sec. 30, T. 34 S., R. 14 E.), Montgomery County, Kansas: Kansas Geological Survey, Open-file Report 2006–40, 29 p.
- Newell, K. D., 2006, Analysis of Cherokee Group cuttings samples for gas content—Layne Energy Operating Company #1–18 Friess well (sec. 18, T. 31 S., R. 17 E.), Montgomery County, Kansas: Kansas Geological Survey, Open-file Report 2006–44, 11 p.
- Newell, K. D., 2006, Analysis of Cherokee Group cuttings samples for gas content—Layne Energy Operating Company #8–4 Tincknell well (sec. 4, T. 31 S., R. 17 E.), Montgomery County, Kansas: Kansas Geological Survey, Open-file Report 2006–34, 23 p.
- Newell, K. D., 2006, Analysis of Cherokee Group cuttings samples for gas content—Production Maintenance Service #1 Schertzer–Barton well (sec. 35, T. 33 S., R. 22 E.), Cherokee County, Kansas: Kansas Geological Survey, Open-file Report 2006–39, 15 p.
- Newell, K. D., and Brown, W. M., 2006, Analysis of Cherokee Group cuttings samples for gas content—Evergreen Operating Corp. #12–27 Reschke well (sec. 34, T. 1 S., R. 16 E.), Brown County, Kansas: Kansas Geological Survey, Open-file Report 2006–6, 35 p.
- Newell, K. D., and Brown, W. M., 2006, Analysis of Cherokee Group cuttings samples for gas content—Evergreen Operating Corp. #42–35 Liggatt well (sec. 35, T. 5 S., R. 16 E.), Jackson County, Kansas: Kansas Geological Survey, Open-file Report 2006–8, 27 p.
- Newell, K. D., and Brown, W. M., 2006, Analysis of Kansas City, Marmaton, and Cherokee Group cuttings samples for gas content—Petrol Oil & Gas #24–21 Rahmeier well (sec. 24, T. 20 S., R. 16 E.), Coffey County, Kansas: Kansas Geological Survey, Open-file Report 2006–38, 34 p.

- Newell, K. D., and Johnson, T. A., 2006, Analysis of Kansas City, Marmaton and Cherokee Group cuttings samples for gas content—Petrol Oil & Gas #7–1 Trulove well (sec. 7, T. 21 R., R. 14 E.), Coffey County, Kansas: Kansas Geological Survey, Open-file Report 2006–45, 38 p.
- Newell, K. D., and Worthington, G. A., 2006, Analysis of Cherokee Group cuttings samples for gas content—Evergreen Operating Corp. #12–27 Grable well (sec. 27, T. 3 S., R. 21 E.), Doniphan County, Kansas: Kansas Geological Survey, Open-file Report 2006–5, 20 p.
- Newell, K. D., and Worthington, G. A., 2006, Analysis of Marmaton and Cherokee Group cuttings samples for gas content—Dart Cherokee Basin Operating Company #B2–23 Huser well (sec. 23, T. 30 S., R. 14 E.), Wilson County, Kansas: Kansas Geological Survey, Open-file Report 2006–36, 25 p.
- Newell, K. D., and Worthington, G. A., 2006, Analysis of Marmaton and Cherokee Group cuttings samples for gas content—Dart Cherokee Basin Operating Company #B3–2 Southwinds Buffalo Ranch well (sec. 2, T. 34 S., R. 14 E.), Montgomery County, Kansas: Kansas Geological Survey, Open-file Report 2006–35, 22 p.
- Newell, K. D., and Worthington, G. A., 2006, Analysis of Marmaton and Cherokee Group cuttings samples for gas content—Dart Cherokee Basin Operating Company #A3–20 Sisson well (sec. 20, T. 33 S., R. 14 E.), Montgomery County, Kansas: Kansas Geological Survey, Open-file Report 2006–43, 22 p.
- Newell, K. D., and Worthington, G. A., 2006, Analysis of Marmaton and Cherokee Group cuttings samples for gas content—Dart Cherokee Basin Operating Company #A1–22 Huser well (sec. 22, T. 30 S., R. 14 E.), Wilson County, Kansas: Kansas Geological Survey, Open-file Report 2006–42, 27 p.
- Newell, K. D., and Worthington, G. A., 2006, Analysis of Marmaton and Cherokee Group cuttings samples for gas content—Dart Cherokee Basin Operating Company #D1–3 B. Neill well (sec. 3, T. 30 S., R. 14 E.), Wilson County, Kansas: Kansas Geological Survey, Open-file Report 2006–41, 25 p.
- Newell, K. D., and Worthington, G. A., 2006, Analysis of Marmaton and Cherokee Group cuttings samples for gas content—Dart Cherokee Basin Operating Company #C3–33 and #D4–33 Mustain wells (sec. 33, T. 30 S., R. 15 E.), Wilson County, Kansas: Kansas Geological Survey, Open-file Report 2006–37, 19 p.
- Newell, K. D., Worthington, G. A., and Robba, R. A., 2006, Analysis of Cherokee Group cuttings samples for gas content—Evergreen Operating Corp. #41–32 Short well (sec. 32, T. 18 S., R. 20 E.), Franklin County, Kansas: Kansas Geological Survey, Open-file Report 2006–46, 25 p.
- Nissen, S., Watney, W. L., Givens, N. B., and Rocke, B. J., 2006, SEISKARST—Improving geologic and engineering models of midcontinent fracture and karst-modified reservoirs using new 3-D seismic attributes: Semiannual Scientific/Technical Report, April 1, Department of Energy, Cooperative Agreement No. DE–FC26–04NT15504, 58 p.
- Nivens, N. B., and Nissen, S. E., 2006, Fracture and karst features affecting reservoir performance in a Mississippian reservoir, Cheyenne County, Colorado: Kansas Geological Survey, Open-file Report 2006–14; <http://www.kgs.ku.edu/PRS/publication/2006/2006-14/index.html>.
- Ohlmacher, G. C., 2006, The mineral industry of Kansas: U.S. Geological Survey, Minerals Yearbook–2004, v. 2 (area reports, domestic), p. 18.1–18.9.
- Qi, L., Carr, T. R., and Goldstein, R. H., 2006, Carbonate lithofacies prediction using neural network and geostatistical 3D modeling of oolite shoals, St. Louis Limestone, southwest Kansas: Kansas Geological Survey, Open-file Report 2006–4, poster, [http://www.kgs.ku.edu/PRS/publication/2006/OFR06\\_04/index.html](http://www.kgs.ku.edu/PRS/publication/2006/OFR06_04/index.html).
- Sawin, R. S., Buchanan, R. C., Evans, C. S., McCauley, J. R., and Lyle, S. A., 2006, 2006 Field Conference Field Guide, The Tri-State region—Boundaries and natural Resources: Kansas Geological Survey, Open-file Report 2006–21.
- Schurger, S. G., Newell, K. D., Blencoe, J. G., and Carr, T. R., 2006, Integrated subsurface carbon sequestration and enhanced coalbed natural gas recovery using cement kiln emissions, Wilson County, Kansas: Kansas Geological Survey, Open-file Report 2006–13; <http://www.kgs.ku.edu/PRS/publication/2006/2006-13/index.html>.
- Skelton, L. H., guide, 2006, Historic oil field tour and oil museum visits; *in*, American Oil & Gas Society, 2006 International Oil History Symposium—Program, Abstracts, and Excursions, April 20–23, Wichita and El Dorado, Kansas, L. H. Skelton, ed.: Petroleum History Institute, Oil City, Pennsylvania, and American Oil and Gas Historical Society, Washington, D.C., Proceedings of the Petroleum History Institute, p. 1–17.
- Skelton, L. H., 2006, A brief history of the Kansas oil and gas industry; *in*, American Oil & Gas Society, 2006 International Oil History Symposium—Program, Abstracts, and Excursions, April 20–23, Wichita and El Dorado, Kansas, L. H. Skelton, ed.: Petroleum History Institute, Oil City, Pennsylvania, and American Oil and Gas Historical Society, Washington, D.C., Proceedings of the Petroleum History Institute, p. 1–9.
- Skelton, L. H., 2006, The development of the Wichita Well Sample Library and its relationship with the oil and gas industry; *in*, American Oil & Gas Society, 2006 International Oil History Symposium—Program, Abstracts, and

- Excursions, April 20–23, Wichita and El Dorado, Kansas, L. H. Skelton, ed.: Petroleum History Institute, Oil City, Pennsylvania, and American Oil and Gas Historical Society, Washington, D.C., Proceedings of the Petroleum History Institute, p. 5.
- Sophocleous, M. A., Townsend, M. A., Willson, T., Vocasek, F., and Zupancic, J., 2006, Fate of nitrate beneath fields irrigated with treated wastewater in Ford County, Kansas: First-year Progress Report to KWRI, 62 p.
- Townsend, M. A.—Responses to review for/by state and federal agencies from the Kansas Geological Survey, including agency review transmittal forms, and environmental assessment comments for calendar year 2006: Kansas Geological Survey, Open-file Report 2006–7, Section E, Responses prepared by Margaret A. Townsend.
- Walters, S. L., Miller, R. D., and Raef, A. E., 2006, Repeatability observations from a time-lapse seismic survey: Society of Exploration Geophysicists, 76<sup>th</sup> Annual International Meeting, p. 3,185–3,189.
- Watney, W. L., and Byrnes, A. P., 2006, Geological overview of the Niobrara Chalk natural gas play—Microhole drilling with coiled tubing—It's here and growing: Half-day Short Course, Denver Section Society of Petroleum Engineers, Continuing Education Short Course in Association with PTTC, May 19, Denver Athletic Club (workbook and video of presentation).
- Watney, W. L., Franseen, E. K., Byrnes, A. P., Nissen, S. E., and Xu, S., 2006, Evaluating structural controls and their role in forecasting properties of Phanerozoic rocks in the northern midcontinent, U.S.A.—Ancient examples and modern analogs: Kansas Geological Survey, Open-file Report 2006–19, [http://www.kgs.ku.edu/PRS/publication/2006/2006-19/2006\\_19.pdf](http://www.kgs.ku.edu/PRS/publication/2006/2006-19/2006_19.pdf).
- West, R. R., and Sawin, R. S., 2006, Field geology maps, Geary County, Kansas (1:24,000 quadrangles—Skiddy, White City, White City NW, and Wreford quadrangles): Kansas Geological Survey, Open-file Report 2006–15, 19 p., 4 maps (2.1 quads equivalent).
- Whittemore, D. O., 2006, Geochemical identification of the saltwater source affecting surface and ground waters near the Washita River, Garvin County, Oklahoma: Addendum to 2004 report, 5 p., for Oklahoma Corporation Commission.
- Whittemore, D. O., Sophocleous, M. A., Butler, J. J., Jr., Wilson, B. B., Tsou, M.-S., Zhan, X., Young, D. P., and McGlashan, M., 2006, Numerical model of the Middle Arkansas River subbasin: Kansas Geological Survey, Open-file Report 2006–25, 122 p.
- Woods, J. J., and Sophocleous, M. A., 2006, GMD3 aquifer thickness study (9 map plates, Appendix on methodology, and Cover letter to GMD3 Manager): Kansas Geological Survey, Open-file Report 2005–20.
- Xia, J., 2006, Delineating subsurface features with the MASW method at Maxwell AFB in Montgomery, Alabama: Kansas Geological Survey, Open-file Report 2006–1, 39 p.
- Xia, J., and Miller, R. D., 2006, Integrated geophysical surveying to define subsidence features on Salina's golf course: Newsletter, Geophysical Society of Kansas, v. 2, no. 6, p. 6–14.

## **Computer Software**

- Wilson, B.—Assist with work on the Middle Arkansas River Basin Model; provided extensive data analysis, creation, processing, and scripting; work with model Technical Advisory Committee.
- Wilson, B.—Provided code development and data assistance to a PL/SQL Oracle-based version of the LEO PLSS legal to geographic conversion process.
- Wilson, B.—Creation and hands-on instructions of customized ArcReader GIS data sets.
- Wilson, B.—Assisted with development of water budget for local township irrigation coalition and GMD #4.
- Wilson, B.—Updated well locations with GPS coordinates for GMD #2 and #5 well networks.
- Wilson, B.—Creation and hands-on instructions of customized ArcReader GIS data sets for GMD#1.

## **Abstracts**

- Bhattacharya, S., Dubois, M. K., Byrnes, A. P., Bohling, G. C., and Doveton, J. H., 2006, Integrated characterization and simulation of multi-section areas in Hugoton and Panoma gas fields (abs): American Association of Petroleum Geologists, Convention Abstracts, p. A57.
- Bohling, G. C., 2006, Exploratory analysis of neural networks for facies discrimination from logs, AAPG Annual Meeting, Houston, Texas, April 9-12, 2006.



- Bohling, G. C., 2006, Age-depth plot and ConDoor—Two CHRONOS data analysis tools: American Association of Petroleum Geologists, Annual Meeting, Houston, Texas, April 9–12.
- Brownrigg, R. L., Miller, J. R., Wallace, V. L., Watney, W. L., and Dubois, M. K., 2006, Visualization of dynamic earth-science data with spacetime maps (exp. abst.): American Association of Petroleum Geologists, Midcontinent Section Meeting, Wichita, Kansas.
- Buddemeier, R. W., Bohling, G. C., Zimmerman, K. M., and Jokiel, P. J., 2006, CO<sub>2</sub>, climate change and risks to coral reefs: Society for Risk Analysis, Annual Meeting.
- Butler, J. J., Jr., Whittemore, D. O., Shea, J., Bauer, J., Kluitenberg, G. J., Loheide, S. P., II, and Jin, W., 2006, The vulnerability of native phreatophytes to groundwater level declines in the Middle Arkansas River valley, Kansas (abs.): Kansas Academy of Science, Program and Abstracts, no. 25, p. 16.
- Carr, T. R., 2006, Models for integrated energy and carbon dioxide sequestration systems: American Association of Petroleum Geologists, Eastern Section Meeting, Buffalo, New York, October 8–11, Program with Abstracts, p. 3, <http://karl.nrcce.wvu.edu/esaapg/abstracts/2006abs.pdf>.
- Carr, T. R., Look, K., Bartley, J., and Hunsinger, K. L., 2006, Application of large online data sets for improved understanding of the subsurface: American Association of Petroleum Geologists, Annual Meeting, Houston, Texas, April 9–12.
- Carr, T. R., Newell, K. D., Blencoe, J. G., and Bhattacharya, S., 2006, Injection of biogenic landfill gas into for enhanced coalbed natural gas recovery and carbon sequestration: American Association of Petroleum Geologists, Annual Convention, Abstracts Volume 15, p. 19.
- Carr, T. R., Rich, P. M., Bartley, J. D., and Keating, G. N., 2006, Carbon cyberinfrastructure—The future of NatCarb: US Department of Energy, 5th Annual Conference on Carbon Sequestration, Alexandria, Virginia, May 8–10, Program with Abstracts, CD proceedings.
- Cervato, C., Fils, D., Bohling, G. C., Diver, P., Greer, D. S., Lambi, B., Reed, J. A., and Tang, X., 2006, CHRONOS—Cyberinfrastructure for earth history: American Association of Petroleum Geologists, Annual Meeting, Houston, Texas, April 9–12.
- Cervato, C., Fils, D., Bohling, G. C., Diver, P., Greer, D. S., Reed, J., and Tang, X., 2006, Experiences with the application of services-oriented approaches to the federation of heterogeneous geologic data resources: American Geophysical Union, Eos, Transactions, Fall Meeting Supplement, v. 87, no. 52, Abstract IN13C–1173.
- Cook, A., Geyer, T., Shook, G., Butler, J. J., Jr., Whittemore, D. O., and Kluitenberg, G. J., 2006, Focused recharge in a semi-arid riparian zone (abs.): American Geophysical Union, Eos, Transactions, Fall Meeting Supplement, v. 87, no. 52, Abstract H11A–1222.
- Cruz, F. E., Eberli, G. P., Rankey, E. C. and Byrnes, A. P., 2006, Modern processes and petrophysical heterogeneity of Pleistocene ooid shoals around Ocean Cay, Bahamas—Lessons from ancient reservoirs: Comparative Sedimentology Laboratory, Annual Review Meeting Extended Abstracts, p. 21–26.
- Dubois, M. K., Byrnes, A. P., Bohling, G. C., Bhattacharya, S., and Doveton, J. H., 2006, Multiscale geologic and petrophysical modeling of the giant Hugoton gas field (Permian), Kansas and Oklahoma (abs.): American Association of Petroleum Geologists, Convention Abstracts, p. A69.
- Emry, J., Goldstein, R. H., and Franseen, E. K., 2006, Mounds that are not mounds—Build-and-fill architecture in glacioeustatic sequences: American Association of Petroleum Geologists, Annual Convention, Abstracts Volume, p. 30.
- Fils, D., Bohling, G. C., Cervato, C., Diver, P., Greer, D. S., Reed, J. A., and Tang, X., 2006, Discover, retrieve, and apply CHRONOS services for science: American Association of Petroleum Geologists, Annual Meeting, Houston, Texas, April 9–12.
- Holen, S., and Mandel, R. D., 2006, The early Paleoindian occupation at the Cramer site (14SN105), Kanorado locality, Sherman County, Kansas: 64th Annual Plains Anthropological Conference, Topeka, Kansas, November.
- Ivanov, J., Miller, R. D., and Xia, J., 2006, Focusing refraction-tomography analysis on the near-surface portion of a seismic model [abs.]: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2006), Seattle, Washington, April 2–6.
- Ivanov, J., Xia, J., and Miller, R. D., 2006, Optimizing horizontal-resolution improvement of the MASW method [Abs.]: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2006), Seattle, Washington, April 2–6, 2006.
- Kluitenberg, G. J., Butler, J. J., Jr., Whittemore, D. O., and Arnold, D., 2006, Quantifying ground-water savings achieved by tamarisk control—A demonstration project in the riparian zone of the Cimarron River, Kansas: The 2006 Tamarisk Research Conference—Current Status and Future Directions, Program and Abstracts, Fort

- Collins, Colorado, Colorado Agric. Exp. Stn., Fort Collins, Colorado; Tamarisk Coalition, Grand Junction, Colorado; and Center for Invasive Plant Management, Montana State University, p. 28–29.
- Ludvigson, G. A., González, L. A., and Driese, S. G., 2006, Meteoric sphaerosiderite lines from the Atokan (Langsettian) Crooked Fork Group, eastern Tennessee—A first-cut comparison between paleoequatorial precipitation rates from the Carboniferous icehouse and Cretaceous greenhouse worlds: Geological Society of America, Abstracts with Programs, v. 38, no. 4, p. 5.
- Ludvigson, G. A., González, L. A., Joeckel, R. M., Al-Suwaidi, A., Kirkland, J. I., and Madsen, S., 2006, Terrestrial paleoclimatic impacts of an Aptian–Albian carbon cycle perturbation: American Geophysical Union, Fall Meeting Program, PP41B–1196, p. 25.
- Ludvigson, G. A., Ufnar, D. F., González, L. A., and Suarez, M. B., 2006, Coming to grips with the evaporation rates recorded in ancient soils—Interpreting diagenetic trends from vadose & phreatic components in calcic paleosols: Geological Society of America, Abstracts with Programs, v. 38, no. 7, p. 532.
- Lynott, M., and Mandel, R. D., 2006, Geoarchaeological study of an Ohio Hopewell Earthwork: Geological Society of America, Annual Meeting, Philadelphia, Pennsylvania, October.
- Macfarlane, P. A., 2006, The prototype Plume Busters software—A new tool for computer-assisted instruction in secondary and undergraduate-level earth and environmental science education: American Geophysical Union, Eos, Transactions, Fall Meeting Supplement, v. 87, no. 52, Abstract Number ED31A–1362.
- Mandel, R. D., 2006, Geochronology and paleopedology of buried Paleoindian landscapes in large Kansas streams: Geological Society of America, Annual Meeting, Philadelphia, Pennsylvania, October.
- Mandel, R. D., Hofman, J. L., and Widga, C., 2006, Geoarchaeology of stratified paleoarchaic deposits at the Claussen site (14WB322) in northeastern Kansas: 64<sup>th</sup> Annual Plains Anthropological Conference, Topeka, Kansas, November.
- Mandel, R. D., and Holen, S., 2006, Stratigraphy and geochronology of early paleoindian and possible pre-Clovis cultural deposits at the Kanorado locality in northwestern Kansas: 64<sup>th</sup> Annual Plains Anthropological Conference, Topeka, Kansas, November.
- Mandel, R. D., and Holen, S., 2006, The history of research at the Kanorado locality in northwestern Kansas: 64<sup>th</sup> Annual Plains Anthropological Conference, Topeka, Kansas, November.
- Mandel, R. D., Holen, S., and Hofman, J. L., 2006, Geoarchaeology of early Paleoindian and possible pre-Clovis cultural deposits at the Kanorado locality, northwestern Kansas (poster): 19<sup>th</sup> Biennial Meeting of the American Quaternary Association, Bozeman, Montana, August.
- Merriam, D. F., Charlton, J. R., and Hambleton, W. W., 2006, Kansas geology as landscape art, interpretation of geology from artistic works (abs.): Kansas Academy of Science, Program and Abstracts, no. 25, p. 30–31.
- Miller, R. D., 2006, High-resolution seismic reflection to identify areas with subsidence potential beneath U.S. 50 Highway in eastern Reno County, Kansas: Symposium on the Application of Geophysics to Engineering and Environmental Problems [ext. abs.]: Selected as a best paper from SAGEEP06, presented by invitation at Near Surface 2006, Helsinki, Finland, September 4–6, 5 p. Published on CD.
- Miller, R. D., 2006, High-resolution seismic reflection to identify areas with subsidence potential beneath U.S. 50 Highway in eastern Reno County, Kansas: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2006), Seattle, Washington, April 2–6, Paper 28, 13 p.
- Miller, R. D., and Millahn, K., 2006, High-resolution seismic reflection investigations of dissolution sinkholes [ext. abs.]: European Association of Geoscientists and Engineers (EAGE) 68th Conference and Exhibition, Vienna, Austria, June 12–15, 4 p. Published on CD.
- Miller, R. D., Park, C. B., Xia, J., Ivanov, J., Steeples, D. W., Ryden, N., Ballard, R. F., Llopis, J., Anderson, T. S., Moran, M. L., and Ketcham, S. A., 2006, Tunnel detection using seismic methods [abs.]: American Geophysical Union, Eos, Transactions, v. 87, no. 36, Abstract NS21A–07.
- Miller, R. D., Raef, A. E., Lambrecht, J. L., and Byrnes, A. P., 2006, High-resolution seismic reflection to monitor change [abs.]: American Geophysical Union, Eos, Transactions, v. 87, no. 36, Abstract NS43A–01.
- Miller, R. D., Steeples, D. W., and Lambrecht, J. L., 2006, High-resolution seismic-reflection imaging 25 years of change in I–70 sinkhole, Russell, County, Kansas [exp. abs.]: Society of Exploration Geophysicists.
- Miller, R. D., Steeples, D. W., Xia, J., Rademacker, T. R., and Lambrecht, J. L., 2006, Seismic reflection characteristics of subsidence affecting transportation: Proceedings of the International Conference on Environmental and Engineering Geophysics, Wuhan, China, June 4–9, p. 2–9.
- Newell, K. D., and Carr, T. R., 2006, Trends in gas content in eastern Kansas coals and implications for future coalbed natural gas exploration: American Association of Petroleum Geologists, Houston, Texas, Annual Convention, Abstracts Volume 15, p. 77.

- Park, C. B., and Miller, R. D., 2006, Roadside passive MASW [abs.]: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2006), Seattle, Washington, April 2–6.
- Qi, L., Carr, T. R., and Goldstein, R. H., 2006, Carbonate lithofacies prediction using neural network and geostatistical 3-D modeling of oolite shoals, St. Louis Limestone, southwest Kansas: American Association of Petroleum Geologists, Annual Meeting, Houston, Texas, April 9–12, (Student Publication)  
<http://aapg.confex.com/aapg/2006am/techprogram/A102468.htm>.
- Qi, L., Carr, T. R., and Goldstein, R. H., 2006, An integrated geostatistical approach—Constructing 3D modeling and simulation of St. Louis carbonate reservoir systems, Archer field, southwest Kansas; in, Reservoir Characterization—Integrating Technology and Business Practices: 26<sup>th</sup> Annual Gulf Coast Section SEPM Foundation, Perkins Research Conference, Houston, Texas, December 3–6 (Student Publication).
- Raef, A. E., and Miller, R. D., 2006, A non-differencing approach to seismic monitoring—Implications for difficult carbonate reservoirs [exp. abs.]: Society of Exploration Geophysicists, New Orleans, Louisiana, October 1–6, p. 3,110–3,113.
- Raef, A. E., Miller, R. D., Byrnes, A. P., and Harrison, W. E., 2006, Impact of improved seismic resolution and signal-to-noise ratio on monitoring pore-fluid composition changes—CO<sub>2</sub>-injection, Hall–Gurney field, Kansas, USA: American Association of Petroleum Geologists, April 9–12, Houston, Texas.
- Rankey, E. C., Byrnes, A. P., Watney, L., and Reeder, S. L., 2006, Sedimentologic and petrophysical properties of a Pennsylvanian ooid shoal, Kansas: Comparative Sedimentology Laboratory, Annual Review Meeting, Extended Abstracts, p. 99–105.
- Rankey, E. C., Reeder, S. L., Watney, W. L., and Byrnes, A., 2006, Spatial trend metrics of ooid shoal complexes, Bahamas—Implications for reservoir characterization and prediction; *in*, Reservoir Characterization—Integrating Technology and Business Practices, R. M. Slatt et al., eds.: Bob F. Perkins Research Conference, Transactions, 26th Annual Meeting of the Gulf Coast Section SEPM Foundation.
- Saunders, J. W., and Mandel, R. D., 2006, Geoarchaeology of Watson Brake—Middle Archaic earthworks in northeast Louisiana: Geological Society of America, Annual Meeting, Philadelphia, Pennsylvania, October.
- Sawin, R. S., and Buchanan, R. C., 2006, Taking legislators to the field—Communicating with policy makers about natural resource issues: American Geophysical Union, Eos, Transactions, Fall Meeting Supplement, v. 87, no. 52, Abstract ED31A–1357.
- Schurger, S., Newell, K. D., Carr, T. R., and Blencoe, J. G., 2006, Integrated subsurface carbon sequestration and enhanced coalbed natural gas recovery using cement-kiln emissions, Wilson County, Kansas: American Association of Petroleum Geologists, Abstracts Volume 15, p. 97 (available as Kansas Geological Survey, Open-file Report 2006–13; online at [http://www.kgs.ku.edu/PRS/publication/2006/OFR06\\_13/index.html](http://www.kgs.ku.edu/PRS/publication/2006/OFR06_13/index.html)).
- Smith, J. J., and Hasiotis, S. T., 2006, Morphologic and paleoenvironmental implications of adhesive meniscate burrows (AMB), Paleogene Willwood Formation and other continental deposits: Kansas Academy of Science, Transactions, 138th Annual Meeting, v. 109, no. 3–4, p. 247–267.
- Smith, J. J., Hasiotis, S. T., Kraus, M. J., and Woody, D., 2006, Morphology and paleoenvironmental implications of adhesive meniscate burrows (AMB), Paleogene Willwood Formation and other continental deposits: Geological Society of America, Annual Meeting Program, v. 38, no. 7, p. 536.
- Smith, S. A., Carr, T. R., Fischer, D. W., Bartley, J. D., Peck, W. D., and Sorensen, J. A., 2006, Estimates of the carbon dioxide sequestration capacity for lower Paleozoic aquifer systems in the midcontinent region of North America: U.S. Department of Energy, 5<sup>th</sup> Annual Conference on Carbon Sequestration, Alexandria, Virginia, May 8–10, Program with Abstracts, CD proceedings.
- Sophocleous, M. A., 2006, Combining field characterization, statistical analysis, and GIS to regionalize localized recharge estimates in the subhumid plains of central Kansas: Geological Society of America, Philadelphia, Pennsylvania, Abstracts with Program, v. 38, no. 7, p. 468.
- Sophocleous, M. A., Townsend, M. A., Willson, T., and Vocasek, F., 2006, Preferential flow and transport of nitrate beneath fields irrigated with treated wastewater in Ford County, Kansas (abs.): Philadelphia Geological Society of American, Philadelphia, Pennsylvania, Abstracts with Program, v. 38, no. 7, p. 40.
- Suarez, M., González, L. A., Vega–Vera, F., and Ludvigson, G. A., 2006, Petrographic and isotopic investigation of depositional environments in the Early Cretaceous (Aptian–Albian) Tlayúa quarry, Mexico: Geological Society of America, Abstracts with Programs, v. 38, no. 7, p. 394.
- Townsend, M. A., Macko, S. A., Sophocleous, M. A., Vocasek, F., Schuette, D., and Ghijsen, R., 2006, Documenting seasonal variation at a wastewater irrigation site through stable isotopes (abs.): Geological Society of America, Abstracts with Program, v. 38, no. 7, p. 40.

- Ufnar, D. F., and Ludvigson, G. A., 2006, Drier in the subtropics and wetter in the mid- to high latitudes—Modeling the Albian greenhouse warming in North America: *Journal of the Mississippi Academy of Sciences*, v. 51, no. 1, Annual Meeting, p. 57–58.
- Ufnar, D. F., Ludvigson, G. A., González, L. A., and Gröcke, D., 2006, Precipitation rates and atmospheric heat transport during the Cenomanian greenhouse warming in North America: *Geological Society of America, Abstracts with Programs*, v. 38, no. 7, p. 202.
- Watney, W. L., Franseen, E. K., Byrnes, A. P., Miller, R. D., Raef, A., Reeder, S. L., and Rankey, E. C., 2006, Characterization of seismically imaged Pennsylvanian ooid shoal geometries and comparison with modern: *American Association of Petroleum Geologists, Annual Convention Abstracts Volume*, Houston, Texas, p. 113; selected for AAPG website online Search and Discovery highlights of meeting: <http://www.searchanddiscovery.net/documents/2006/06093watney/index.htm> and pdf.
- Watney, W. L., West, R. R., Franseen, E. K., and Sawin, R. S., 2006, Nature of Depositional Sequences associated with the Carboniferous-Permian Boundary and Adjacent Units in the Midcontinent (abst.): *Geological Society of America, South-central Section Meeting*, March 6–7, 2006, *Abstracts with Programs*, v. 38, no. 1, p. 4–5.
- Whittemore, D. O., Sophocleous, M. A., Butler, J. J., Jr., Wilson, B. B., and Tsou, M-S., 2006, A modeling assessment of the long-term sustainability of ground-water pumping in the Middle Arkansas River subbasin of south-central Kansas: *Geological Society of America, Abstracts with Program*, v. 38, no. 7, p. 192.
- Woody, D. T., Smith, J. J., and Kraus, M. J., 2006, Preservation of a vegetated landscape in the earliest Eocene, Polecat Bench, Bighorn basin, Wyoming: *Geological Society of America, Annual Meeting Program*, v. 38, no. 7, p. 144.
- Xia, J., and Miller, R. D., 2006, Applications of integrated geophysical survey in defining subsidence features on a golf course [abs.]: *Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2006)*, Seattle, Washington, April 2–6.
- Xia, J., Nyquist, J. E., Xu, Y., Miller, R. D., and Roth, M. J. S., 2006, Rayleigh-wave diffractions due to near-surface features (invited presentation): *Geological Society of America, Annual Meeting*, Philadelphia, Pennsylvania, *Abstracts with Programs*, v. 38, no. 7, p. 525.
- Xia, J., Nyquist, J. E., Xu, Y., and Roth, M. J., 2005, Feasibility of detecting voids with Rayleigh-wave diffraction: *Symposium on the Application of Geophysics to Environmental and Engineering Problems (SAGEEP) Annual Meeting of the Environmental and Engineering Geophysical Society (EEGS)*, April 2–6, Seattle, Washington, 1 p.
- Zheng, C., Butler, J. J., Jr., Hyndman, D. W., and Tick, G. R., 2006, Characterizing small-scale heterogeneities at the MADE site using sedimentological, hydraulic, and tracer data (abs.): *Geological Society of America, Philadelphia, Pennsylvania, Abstracts with Program*, v. 38, no. 7, p. 110.

## **Presentations**

- Battles, E.—Presented session about Kansas Geospatial Community Commons (KGCC) at the 2006 KAM Conference.
- Battles, E.—Presented session explaining the DASC web site at the 2006 Infinitec Conference.
- Brady, L. L., Coal and coalbed methane in Kansas and its place in the nation: *Energy Series*, East Wichita Shepherd's Center, Wichita, Kansas, February 14.
- Butler, J. J., Jr., An ecohydrologic investigation of groundwater consumption by phreatophytes, an invited presentation to the Environmental Resources and Policies Program, Southern Illinois University, Carbondale, Illinois, March 8.
- Butler, J. J., Jr., Hydrogeological methods for estimation of spatial variations in hydraulic conductivity, an invited presentation at the High Resolution Site Characterization and Monitoring Symposium of the Groundwater Resources Association of California, Long Beach, California, November 14.
- Butler, J. J., Jr., New methods and scales for estimation of spatial variations in hydraulic conductivity, an invited presentation to the Department of Geology, Southern Illinois University, Carbondale, Illinois, March 9.
- Butler, J. J., Jr., New methods and scales for estimation of spatial variations in hydraulic conductivity, an invited presentation to the Department of Geosciences, University of Missouri at Kansas City, Kansas City, Missouri, February 16.
- Butler, J. J., Jr., Kluitenberg, G. J., Whittemore, D. O., and Arnold, D., 2006, An investigation of ground-water savings achieved through salt-cedar control activities (abs.): *Proceedings 23<sup>rd</sup> Annual Water and Future of Kansas Conference*, Topeka, Kansas.

- Butler, J. J., Jr., Whittemore, D. O., Shea, J., Bauer, J., Kluitenberg, G. J., Loheide, S. P., II, and Jin, W., 2006, The vulnerability of native phreatophytes to ground-water level declines in the middle Arkansas River valley, Kansas (abs.): Kansas Academy Science, Transactions, v. 109, no. 3/4, p. 249.
- Carr, T.—Presentation on “Energy and the Future—Models for Environmentally Sound and Economically Viable Opportunities” at Energy and Environmental Impact Related to Sustainability, Kansas State University Intersession Course, Manhattan, Kansas, January 4.
- Carr, T.—Testimony to Senate Utility Committee of Kansas Legislature on coalbed methane (with Dave Newell), January 5.
- Carr, T.—Presentation on “Coalbed Methane and Gas Shale in the Southern Midcontinent,” Oklahoma City, OK, March 21.
- Carr, T.—Presentation to Eastern Kansas Royalty Owners Association Meeting, Chanute, Kansas, October 19.
- Dealy, M.—Presentation on “What’s so important about the Equus Beds” to Kansas Geological Society.
- Franseen, E. K., Introduction to the Stratigraphic Research Section, Kansas Geological Survey Advisory Committee Meeting, invited presentation, March 31.
- Franseen, E. K., Contrasting styles and common controls on Middle Mississippian and Upper Pennsylvanian carbonate platforms in the upper midcontinent, U.S.A., to Denver chapter of SIPES, January 26.
- Franseen, E. K., Evaluating structural controls and their role in forecasting properties of Phanerozoic rocks in the northern midcontinent, USA—Ancient examples and modern analogs, to Kansas Geological Society Technical Meeting, Wichita, May, 4.
- Franseen, E. K., Construction aggregate research and materials inventory projects, to Kansas Geological Society Geofest Meeting, October 30.
- Franseen, E. K., Update on aggregate-related research, to Kansas Aggregate Producers Association 39<sup>th</sup> Annual Joint Convention, January 12–14, Kansas City.
- Jokiel, P. L., vanBeukering, P., and Buddemeier, R. W., 2006, Effects of climate change on ecosystem services provided by Hawaiian coral reefs: U.S. EPA, STAR workshop, Washington, D.C.
- Kluitenberg, G. J., Butler, J. J., Jr., Whittemore, D. O., Jin, W., Zhan, X., Loheide, S. P., II, and Arnold, D., 2006, A field investigation of major controls on phreatophyte-induced fluctuations in the water table (abs.): 23<sup>rd</sup> Annual Water and Future of Kansas Conference.
- Ludvigson, G. A., Exploring the role of the hydrologic cycle in climate model simulations of past greenhouse worlds: Department of Geology, University of Kansas, Lawrence, Kansas, February 16.
- Ludvigson, G. A., Exploring the role of the hydrologic cycle in climate model simulations of past greenhouse worlds: Department of Geology, University of Nebraska, Lincoln, Nebraska, January 27.
- Ludvigson, G. A., Isotopic analysis of carbonates in paleosols: Kansas Association of Professional Soil Classifiers, Kansas Geological Survey, April 27.
- Macfarlane, P. A., 2006, Resources and management issues associated with bedrock aquifers in Kansas: Proceedings of the 15th Annual Kansas Hydrology Seminar, Topeka, Kansas.
- Mandel, R. D., The effects of temporal and spatial patterns of landscape evolution on the archaeological record of the central Great Plains, Department of Anthropology Lecture Series, University of Oklahoma, Norman, Oklahoma, October 13.
- Mandel, R. D., Geoarchaeology of early Paleoindian and possible pre-Clovis cultural deposits at the Kanorado locality, northwestern Kansas, Sam Noble Oklahoma Museum of Natural History Lecture Series, University of Oklahoma, Norman, Oklahoma, October 13.
- Mandel, R. D., Kanorado revisited—Paleoindian geoarchaeology in northwestern Kansas, Kansas Geological Society Lecture Series, Wichita, Kansas, December 13.
- Mandel, R. D., Stratigraphy and paleopedology of the Kanorado locality, northwestern Kansas, to Kansas Association of Professional Soil Classifiers Annual Meeting, Banquet Lecture, University of Kansas, Lawrence, April 27.
- Miller, R. D., Two papers presented at American Geophysical Union Joint Assembly, Baltimore, Maryland, May.
- Miller, R. D., Presentation on EAGE–Near Surface 2006 Helsinki, September.
- Miller, R. D., Keynote, International Conference on Environmental and Engineering Miller—Geophysics, Wuhan, China, June.
- Miller, R. D., PTTC CO<sub>2</sub> EOR/IOR, Houston, Texas, February.
- Miller, R. D., Presentation at CEA Dam Safety Conference, Toronto, Canada, January.
- Miller, R. D., Presentation on “Dams and levees,” to Kansas Geological Survey Advisory Committee meeting, Lawrence, March 31.
- Miller, R. D., Seismic detection of CO<sub>2</sub> flood, at KGS/KGS Geofest meeting, Lawrence, October 30.

- Miller, R. D., Subsidence in Sedgwick County, to KGS Advisory Committee, Wichita, October 6.
- Miller, R. D., Seismic detection of CO<sub>2</sub> flood, to Kansas Geological Survey Advisory Committee, Lawrence, July 14.
- Miller, R. D., 2006, Guest lecturer, Zhejiang University, Hongzhou, China, June 4, invited presentation.
- Miller, R. D., 2006, Seismic investigation of dams, dikes, and levees—Clearwater Dam, south central Missouri, to Dam Safety Interest Group, CEA Technologies, Inc., Toronto, Ontario, Canada, January 26–27.
- Miller, R. D., 2006, Subsidence and salt, to Sedgwick County Commissioners, Wichita, January 24, invited presentation.
- Miller, R. D., 2006, Lake geophysics, at Sediment Workshop, Kansas Water Research Institute, Topeka, March 15.
- Miller, R. D., U.S. Department of Defense, Geophysical Detection of Clandestine Tunnels, University of Mississippi, Oxford, Mississippi, February.
- Miller, R. D., Park, C. B., Xia, J., Ivanov, J., Steeples, D., Ryden, N., Ballard, R. F., Llopis, J. L., Anderson, T. S., and Moran, M. L. 2006, Experiences searching for voids using seismic: Workshop on the Real-Time Detection of Clandestine Shallow Tunnels, National Center for Physical Acoustics, University of Mississippi, February 14.
- Miller, R. D., Raef, A. E., and Byrnes, A. P., 2006, Time-lapse high-resolution 3-D seismic imaging to monitor a miscible CO<sub>2</sub> flood in a thin carbonate reservoir—Hall–Gurney field, Russell County, Kansas: Meeting with Los Alamos on Drilling Microholes for Seismic Monitoring of Enhanced Oil Recovering Using CO<sub>2</sub> Injection, Lawrence, Kansas, January 10.
- Miller, R. D., Raef, A. E., Byrnes, A. P., and Harrison, W. E., 2006, Time-lapse 3-D seismic imaging to monitor miscible CO<sub>2</sub> floods—Case study in a thin carbonate reservoir, Hall–Gurney field, Russell County, Kansas: Department of Energy, CO<sub>2</sub> Enhanced Oil Recovery Pre-proposal Workshop, Houston, Texas, February 22.
- Newell, K. D., Coalbed gas in Kansas, talk presented at Eastern Kansas Royalty Owners Association Meeting, Chanute, Kansas, October 19.
- Newell, K. D., and Carr, T. R., 2006, Geologic controls on coalbed natural gas production in eastern Kansas coals: Symposium on Coalbed Methane and Gas Shales in the Southern Midcontinent, Oklahoma Geological Survey, Oklahoma City, Oklahoma, March 21.
- Sophocleous, M. A., Townsend, M. A., Willson, T., and Vocasek, F., 2006, Fate of nitrate beneath fields irrigated with treated wastewater in Ford County, Kansas: 23<sup>rd</sup> Annual Water and the Future of Kansas Conference, Topeka, Kansas, March 16.
- Sophocleous, M. A., Invited presentation on Preferential flow and transport of nitrate beneath treated wastewater-irrigated fields near Dodge City, Kansas, at Kansas Geological Survey Advisory Council, Lawrence, Kansas, March 31.
- Sophocleous, M. A., Invited presentation on spatial and temporal variability of recharge, at 2006 GSA Annual Meeting, Philadelphia, Pennsylvania, October 25.
- Sophocleous, M. A., Invited presentation on water resources sustainability and its application in Kansas to a group of visiting Asian scientists; visit sponsored by IWMI and KU International Studies Program, University of Kansas, Lawrence, November 27.
- Suchy, D. R., Adkins–Heljeson, D., and Stewart, D. L., 2006, KGS geohydrologic data on the internet (abs.): 23<sup>rd</sup> Annual Water and the Future of Kansas Conference, Topeka, Kansas.
- Watney, W. L., 1.5-hr. videotaped interview/story on alternative energy and KU Energy Research Center: <https://tv.ku.edu/news/2006/12/07/university-looks-wind/>.
- Watney, W. L. organizer/compiler, Bohling, G., Bhattacharya, S., Doveton, J., Guy, B., 2006, PFEFFER Pro overview and web tools, PTTC/ERC sponsored day-long workshop held on March 30 in Wichita and on Nov. 17 in Lawrence (workbook and coordinated CD).
- Watney, W. L., and Byrnes, A. P., 2006, Geological overview of the Niobrara Chalk natural gas play—Microhole drilling with coiled tubing—It's here and growing: Denver Section Society of Petroleum Engineers, Continuing Education Short Course (half-day) in association with PTTC, May 19, Denver Athletic Club, Denver, Colorado.
- Watney, W. L., Callaghan, N., Bartley, J., and Xu, S., 2006, Applying visual techniques on geological formations using modeling techniques and 3-D visualization: 2006 ESRI Petroleum User Group Conference, April 3–5, Houston, Texas.
- Watney, W. L., Franseen, E. K., Byrnes, A. P., Nissen, S. E., and Sihuang, X., 2006, Evaluating structural controls and their role in forecasting properties of Phanerozoic rocks in the northern midcontinent, U.S.A.—Ancient examples and modern analogs: Presented to Denver chapter of SIPES, Denver, Colorado, January 26; Kansas Geological Society, Wichita, Kansas, May 4; and KGS, Lawrence, Kansas, July 18, 25.

- Whittemore, D. O., Sophocleous, M. A., and Butler, J. J., Jr., 2006, Downstream extension of dry river bed conditions for the Arkansas River, Kansas: 51<sup>st</sup> Annual Midwest Ground Water Conference, Program with Abstracts, School of Natural Resources, University of Nebraska, Lincoln, Nebraska, p. 15.
- Wilson, B. B., Talk to Kansas Rural Water Association Conference.
- Wilson, B. B., Talk to Water and the Future of Kansas Conference.
- Xia, J.—Feasibility of detecting near-surface feature with Rayleigh-wave diffraction: The Geological Society of America Annual Meeting, Philadelphia, Pennsylvania, October 22–25, 2006.
- Xia, J.—New developments in analysis of high-frequency Rayleigh waves: Southwest Jiaotong University, China, June 26, 2006.
- Xia, J.—New developments in analysis of high-frequency Rayleigh waves: Zhejiang University, China, June 4, 2006.

## **Awards**

- Carr, T.—Best Poster, American Association of Petroleum Geologists, Annual Meeting, Energy Minerals Division, Houston, Texas, April.
- Miller, R.—Selected best paper at SAGEEP EGS annual meeting, 2006.
- Newell, D.—Energy Minerals Division Award for Best Poster Presentation (co-author); 2006 American Association of Petroleum Geologists National Convention, Houston, Texas.
- Smith, J.—Raymond and Lillian Moore Graduate Scholarship, Geology Department, University of Kansas, 2006.
- Smith, J.—Eugene Dehner Award, Kansas Academy of Science (2006), 2<sup>nd</sup> place Ph.D. oral presentation.
- Watney, L.—John V. Atanasoff Research and Discovery Award, 2006, Iowa State University.
- Whittemore, D.—Elected Fellow of the Geological Society of America.
- Xia, J.—The Golden Bridge Award, The 2<sup>nd</sup> International Conference on Environmental and Engineering Geophysics, 2006.

## **Internal Service**

- Battles, E.—Created a series of custom maps for week-long annual tour sponsored by the University of Kansas Chancellor's office. The maps were titled “Wheat State Whirlwind: A Tour of the Heartland for KU Faculty.”
- Butler, J.—University of Kansas, Student Advising, Postdoctorate Fellow: Xiaoyong Zhan (2002–06).
- Butler, J.—Member, KGS Stratigraphic Research Assistant Scientist Search Committee.
- Butler, J.—Member, KGS Exploration Services Research Assistant Search Committee.
- Butler, J.—Member, KGS Geohydrology Field Hydrogeologist Search Committee.
- Butler, J.—Member, KGS Promotion and Review Committee.
- Butler, J.—Member, KGS Deputy Director Search Committees.
- Carr, T.—Taught course at University of Kansas, Geology 536, Log Analysis of Subsurface Geology, assisted John Doveton.
- Carr, T.—Supervised KU graduate students—Stephen Schurger (M.S., 2006); Alan P. Byrnes (Ph.D., expected 2006); and Martin K. Dubois (Ph.D. expected 2006).
- Doveton, J.—KU courses taught: GEOL 536, Log Analysis of Subsurface Geology; C&PE 528, Well Logging.
- Franseen, E.—Co-chair, KGS search committee for Deputy Director, 2006–07.
- Franseen, E.—Co-leader of a 10-day field trip for University of Kansas and University of Puerto Rico—Mayaguez geology graduate and undergraduate students to Paleozoic strata in the Sacramento and Guadalupe Mountains, New Mexico and Texas, March 17–March 26.
- Franseen, E.—Co-instructor for Geology 761, Regional Field Geology, Spring Semester, Geology Department, University of Kansas.
- Ludvigson, G.—July–August 2006—Co-instructor, Advanced Topics in Geology: Mid-Cretaceous Geology of China, with Luis A. González, The University of Kansas.
- Ludvigson, G.—July 2006–present: Courtesy Associate Professor, Department of Geology, University of Kansas.
- Mandel, R.—Served on dissertation committees at the University of Kansas for Virginia Hatfield, Department of Anthropology, and Chris Widga, Department of Anthropology.
- Mandel, R.—Chair of KGS search committee for hiring a Post-Doctoral Research Associate specializing in Neogene

stratigraphy and modern pedogenic processes, Stratigraphic Research Section.  
Mandel, R.—Committee member, KU Social Sciences General Research Fund.  
Miller, R.—Chair of KU thesis committees: Theresa Rademacker (Masters); Jamie Lambrecht (Masters).  
Newell, D.—Merriam International Travel Awards Committee (member).  
Newell, D.—Search Committee for technical field assistant (member).  
Suchy, D.—Helped to judge student research paper presentations for Sigma Xi Student Research Competition.  
Suchy, D.—Served as peer reviewer of paper on chaetetid bioconstructions in Sonora, Mexico, for the Geological Society of London Special Publication, Palaeozoic Reefs and Bioaccumulations—Climatic and Evolutionary Controls.

## **External Service**

Battles, E.—Served as Chairperson for the Technical Advisory Committee (TAC) Land Use/Geology/Soils data committee.  
Battles, E.—Created a map titled “Know Your Watershed” for the Kansas Water Office.  
Battles, E.—Created a map for the “Teacher of the Year” award for the Kansas Water Office.  
Brady, L.—Co-Leader, Field trip —“Overview of coal and coalbed methane in the Cherokee basin, northeast Oklahoma” for the Midcontinent Coalbed Methane and Gas Shale Symposium II, October, 24.  
Buchanan, R.—Association of Earth Science Editors, Chair, Long-range Planning Committee, 2002–06.  
Butler, J.—Chair (7/04–6/06), Groundwater Technical Committee, American Geophysical Union.  
Butler, J.—Associate Editor—Hydrogeology Journal (2006–).  
Butler, J.—Panelist, AAAS Research Competitiveness Service, Panel for Review of New Mexico NSF EPSCoR Program, April.  
Butler, J.—Promotion and Tenure Evaluator for Department of Geological Sciences, University of Colorado, and Department of Geology and Geophysics, Texas A&M University.  
Butler, J.—Aquifer Testing for Improved Hydrogeologic Site Characterization Featuring AQTESOLV and the In-Situ LevelTroll (taught half of course), Fort Collins, Colorado, October 17–18.  
Butler, J.—Advanced Aquifer Testing Analysis Featuring AQTESOLV: New Concepts, Field Methods, and Data Analysis Procedures (taught half of course), GES Inc., Exton, Pennsylvania, May 2–3; University of Miami, February 28–March 2.  
Butler, J.—Design and Analysis of Pumping Tests with AQTESOLV (sole instructor), Division of Water Resources, Kansas Department of Agriculture, Topeka, Kansas, October 11.  
Butler, J.—Linked Hydrologic Processes Across Surface Water, Vadose Zone Water, and Groundwater, Fall Meeting of the American Geophysical Union, San Francisco, California, December.  
Carr, T.—Session chair, “Oil sands/shales—Thermal/non-thermal methods leading us to new giants?” American Association of Petroleum Geologists, Annual Meeting, Houston, Texas, April 9–12.  
Carr, T.—Second Midcontinent Coalbed Methane Symposium, Petroleum Technology Transfer Council, Midcontinent CBM Forum and the OIPA, Tulsa, Oklahoma, October 22–24.  
Doveton, J.—QGS “Log Analysis for Reservoir Characterization,” February 6–7, Houston, Texas.  
Doveton, J.—PTTC Workshop “The PffEFFER Workshop,” March 30, Wichita, KS, November 16, Lawrence, Kansas.  
Doveton, J.—PEMEX “Prediction of permeability from logs,” August 21–25, Villahermosa, Mexico.  
Doveton, J.—KCC “Basic Log Course,” October 5, Wichita, Kansas.  
Doveton, J.—EREX Short Course on “Petrophysical Log Analysis,” November 5–9, Cairo and Hurghada, Egypt.  
Franseen, E.—SEPM Foundation Board, 2006–present.  
Franseen, E.—SEPM Student Assistance Grants Committee, 2006–present.  
Franseen, E.—Co-instructor for AAPG Education Program “Controls on Porosity Types and Distribution in Carbonate Reservoirs,” Almeria, Spain, May–June.  
Ludvigson, G.—StateMap Program Coordinator.  
Mandel, R.—Elected to the Council of the American Quaternary Association (AMQUA), 2002–06 (representing archaeology and geoarchaeology).  
Mandel, R.—Served as an external member of a dissertation or master’s committee for Elizabeth Robertson, Department of Archaeology, University of Calgary, M.S.; Adel E. Haj, Jr., Department of Geology, University of Iowa, Ph.D.; Cynthia Wambsgans, Department of Geosciences, University of Iowa, M.S.  
Mandel, R.—Organizer and chair of a theme session “Geoarchaeology of Prehistoric Earthworks,” Annual Meeting



of the Geological Society of America, Philadelphia, Pennsylvania, October 24.

Mandel, R.—Chair, Committee for the Douglas C. Kellogg Fund for Geoarchaeological Research, Society for American Archaeology, 2002–06.

Mandel, R.—Representative, Geological Society of America Joint Technical Program Committee, 2005–06.

Miller, R.—Michigan Department of Transportation, Ontario Ministry of Transportation, Geotechnical Oversight Panel; Detroit River International Crossing, 2006–08.

Miller, R.—SEG, Special Issue Editor, *The Leading Edge*, March (v. 25, no. 3), geophysics and public safety; June (v. 25, no. 6), hydrogeophysics; October (v. 25, no. 10), carbon sequestration/EOR.

Miller, R.—National Advisory Team for Geophysics in Hydrology, organized by the Consortium of Universities for the Advancement of Hydrologic Sciences Inc., 2006–present.

Miller, R.—ASTM Geophysics Subcommittee on Seismic Standards, 2006–present.

Sophocleous, M.—Associate Editor, *Hydrogeology Journal*, January 2002–December 2006.

Sophocleous, M.—Examiner for dissertation: S. A. Pierce, 2006, Jackson School of Geosciences, University of Texas@Austin, Austin, Texas.

Suchy, D.—Manned a booth and poster at City of Lawrence Water Festival, Earth Day, in South Park.

Suchy, D.—Coordinated efforts between KGS and KDHE to further their utilization of and reliance on our online WWC5 water well database.

Suchy, D.—Began duties as Exhibits and Sponsors Chair for joint meeting of South-Central and North Central Sections of GSA to be held at KU in April 2007.

Watney, L.—Chair, Headquarters and Business Committee, Society of Sedimentary Geology (SEPM), 2006.

White, S.—Board member, Kansas Natural Resource Council, Lawrence, Kansas, August 2006–07.

White, S.—Task Force Member, Senator Pat Roberts energy task force, 2006.

Wilson, B.—Kansas Technical Advisory Committee and the DASC Sub-committee to the Kansas GIS Policy Board.

Wilson, B.—Sandia National Laboratory, Invited participant for the Energy and Water Roadmap—GAPs Analysis Workshop.

## 2005

### Refereed Publications

- Bhattacharya, S, Doveton, J. H., Carr, T. R., Guy, W. R., and Gerlach, P. M., 2005, Integrated core-log petrofacies in the construction of a reservoir geomodel—A case study of a mature Mississippian carbonate reservoir using limited data: *American Association of Petroleum Geologists, Bulletin*, v. 89, no. 10, p. 1,257–1,274.
- Bohling, G. C., 2005, CHRONOS age-depth plot—A Java application for stratigraphic data analysis: *Geosphere*, v. 1, no. 2, p. 78–84.
- Buchanan, R., 2005, Five things I've learned in 25 years of popularizing geology: *Palaios*, v. 20, no. 1, February, p. 1–2.
- Burbridge, P., Buddemeier, R. W., Le Tissier, M. D. A., and Costanza, R., 2005, Synthesis of main findings and conclusions; *in*, *Coastal Fluxes in the Anthropocene*, C. J. Crossland, H. H. Kremer, H. J. Lindeboom, J. I. Marshall Crossland, and M. D. A. Le Tissier, eds.: Springer, Berlin Heidelberg New York, p. 201–217.
- Butler, J. J., Jr., 2005, Hydrogeological methods for estimation of hydraulic conductivity; *in*, *Hydrogeophysics*, Y. Rubin and S. Hubbard, eds.: Springer, The Netherlands, Water Science and Technology Library, v. 50, p. 23–58.
- Carr, T. R., Merriam, D. F., and Bartley, J. D., 2005, Use of relational databases to evaluate regional petroleum accumulation, groundwater flow, and CO<sub>2</sub> sequestration in Kansas: *American Association of Petroleum Geologists, Bulletin*, v. 89, p. 1,607–1627; <http://membernet.petris.com/data/2005/12dec/1607/1607.HTM>.
- Carr, T. R., Newell, K. D., Johnson, T. A., Brown, W. M., and Lange, J. P., 2005, Coalbed-methane development in Kansas; *in*, *Unconventional Energy Resources in the Southern Midcontinent*, 2004 Symposium, B. J. Cardott, ed.: Oklahoma Geological Survey, Circular 110, p. 63–65.
- Castle, J. W., and Byrnes, A. P., 2005, Petrophysics of Lower Silurian sandstones and integration with the tectonic-stratigraphic framework, Appalachian basin, United States: *American Association of Petroleum Geologists, Bulletin*, v. 89, no. 1, p. 41–60.

- Castle, J. W., Rudolph, L., and Byrnes, A. P., 2005, Lower Silurian incised-valley fills of the Appalachian foreland basin and application to petroleum exploration; *in*, Incised Valleys, R. W. Dalrymple, ed.: SEPM Special Publication.
- Chopra, S., Chemingui, N., and Miller, R. D., 2005, Introduction to this special section—Carbonates: The Leading Edge, v. 24, no. 5, p. 488–489.
- Devlin, J. F., and Sophocleous, M. A., 2005, The persistence of the water budget myth and its relationship to sustainability: *Hydrogeology Journal*, v. 13, no. 4, p. 549–554.
- Doveton, J. H., 2005, Latent class analysis—An algebra of probability for binary data: *Proceedings, IAMG 05—GIS and Spatial Analysis*, v. 2, p. 1,278–1,283.
- Doveton, J. H., 2005, Polynomial stratigraphy—Moment mapping of subsurface lithofacies in three dimensions: *Proceedings, IAMG 05—GIS and Spatial Analysis*, v. 2, p. 1,296–1,301.
- Feldman, H. R., Franseen, E. K., Joeckle, R. M., and Heckel, P. H., 2005, Impact of longer-term modest climate shifts on architecture of high-frequency sequences (cyclothems), Pennsylvanian of midcontinent, USA: *Journal of Sedimentary Research*, v. 75, p. 350–368.
- Franseen, E. K., 2005, Paleozoic carbonates of the Commonwealth of Independent States (CIS); *in*, *Subsurface Reservoirs and Outcrop Analogs*, W. G. Zempolich and H. E. Cook, eds.: SEPM Special Publication 74 (2002), 245 p.; *Palaos*, v. 20, p. 313–314.
- Hayes, D. E., and Nissen, S. E., 2005, The South China Sea margins—Implications for rifting contrasts: *Earth and Planetary Science Letters*, v. 237, p. 601–616.
- Hunter, J. A., Pullan, S. E., Good, R. L., Burns, R. A., Douma, M., Miller, R. D., Park, C. B., and Xia, J., 2005, Measuring sub-seabottom seismic velocities—Some unusual experiments: *Proceedings of the Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2005)*, Atlanta, Georgia, April 3–7, p. 370–386.
- Ivanov, J., Miller, R. D., Ballard, R. F., Dunbar, J. B., and Smullen, S., 2005, Time-lapse seismic study of levees in southern Texas [exp. abs.]: *Society of Exploration Geophysicists*, Houston, Texas, November 6–11, p. 1,121–1,124.
- Ivanov, J., Miller, R. D., Xia, J., and Steeples, D. W., 2005, The inverse problem of refraction traveltimes, part II—Quantifying refraction nonuniqueness using a three-layer model: *Pure and Applied Geophysics*, v. 162, no. 3, p. 461–477.
- Ivanov, J., Miller, R. D., Xia, J., Steeples, D. W., and Park, C. B., 2005, The inverse problem of refraction traveltimes, part I—Types of geophysical nonuniqueness through minimization: *Pure and Applied Geophysics*, v. 162, no. 3, p. 447–459.
- Ivanov, J., Park, C. B., Miller, R. D., and Xia, J., 2005, Analyzing and filtering surface-wave energy by muting shot gathers: *Journal of Environmental & Engineering Geophysics*, v. 10, no. 3, p. 307–322.
- Joeckel, R. M., Ludvigson, G. A., Witzke, B. J., Kvale, E. P., Phillips, P. L., Brenner, R. L., Thomas, S. G., and Howard, L. M., 2005, Paleogeography and fluvial to estuarine architecture of the Dakota Formation (Cretaceous, Albian), eastern Nebraska, USA; *in*, *Fluvial Sedimentology VII*, M. D. Blum, S. Marriott, and S. Leclair, eds.: *International Association of Sedimentologists, Special Publication No. 35*, Blackwell Publishing, Oxford, p. 453–480.
- Johnson, C. L., Franseen, E. K., and Goldstein, R. H., 2005, The effects of relative sea level and paleotopography on lithofacies distribution and geometries in heterozoan carbonates, southeastern Spain: *Sedimentology*, v. 52, p. 513–536.
- Kaufmann, R. D., Xia, J., Benson, R., Yuhr, L. B., Casto, D. W., and Park, C. B., 2005, Evaluation of MASW data acquired with a hydrophone streamer in a shallow marine environment: *Journal of Environmental and Engineering Geophysics*, v. 10, no. 2, p. 87–98.
- Kleypas, J. A., Buddemeier, R. W., Eakin, C. M., Gattuso, J. P., Hoegh-Guldberg, O., Iglesias-Prieto, R., Jokiel, P. L., Langdon, C., Skirving, W., and Strong, A. E., 2005, Comment on "Coral reef calcification and climate change: The effect of ocean warming": *Geophysical Research Letters*, v. 32, issue 8, article number L08601.
- Lambrecht, J. L., Miller, R. D., and Durrant, S., 2005, Time-lapse high resolution seismic imaging of a catastrophic salt dissolution sinkhole in central Kansas: *Proceedings of the Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2005)*, Atlanta, Georgia, April 3–7, p. 943–951.
- Liu, J., Xia, J., Chen, C., and Zhang, G., 2005, Accurate elevation and normal moveout corrections of seismic reflection data on rugged topography: *New Zealand Journal of Geology and Geophysics*, Royal Society of New Zealand, v. 48, no. 4, p. 707–716.
- Loheide, S. P., II, Butler, J. J., Jr., and Gorelick, S. M., 2005, Estimation of groundwater consumption by phreatophytes using diurnal water table fluctuations—A saturated-unsaturated flow assessment, *Water*

- Resources Research, v. 41, no. 7.
- Ludvigson, G. A., and Witzke, B. J., 2005, The emerging record of Late Ordovician global change: Iowa DNR Geological Survey, Guidebook Series No. 24, p. 66–71.
- Mandel, R. D., 2005, Geomorphology and site stratigraphy; *in*, The Cowan Site—A Great Oasis Community in Northwest Iowa, S. C. Lensink and J. A. Tiffany, eds.: Office of the State Archeologist, University of Iowa, Iowa City, IA, p. 11–21.
- Mandel, R. D., Holen, S., and Hofman, J. L. 2005, Geoarchaeology of Clovis and potential pre-Clovis cultural deposits at the Kanorado locality, northwestern Kansas: Current Research in the Pleistocene, v. 22, p. 56–57.
- McLaughlin, C. J., Smith, C. A., Buddemeier, R. W., Bartley, J. D., and Maxwell, B. A., 2005, Reply to the comments of Macdonald et al. on "Rivers, runoff and reefs" [Global and Planetary Change 39 (2003) 191-199]: Global and Planetary Change, v. 45, issue 4, p. 339–341.
- Miller, R. D., Hunter, J. A., Doll, W. E., Carr, B. J., and Collett, T. S., 2005, High-resolution seismic imaging of the gas hydrate stability zone at the Mallik L-38 research site; *in*, Scientific Results from the Mallik 2002 Gas Hydrate Production Research Well Program, Mackenzie Delta, Northwest Territories, Canada, S. R. Dallimore and T. S. Collett, eds.: Geological Survey of Canada, Bulletin 585, 14 p.
- Miller, R. D., Ivanov, J., Markiewicz, R. D., and O'Connell, D., 2005, Estimating vibration response of East Canyon Dam, Utah, from P-, S-, and surface-wave measurements: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2005), Atlanta, Georgia, April 3–7, p. 1,025–1,032.
- Miller, R. D., Ivanov, J., Markiewicz, R. D., and O'Connell, D., 2005, Standard guide for using the seismic-reflection method for shallow subsurface investigation: ASTM International, D 7128–05, 25 p.
- Miller, R. D., Ivanov, J., Steeples, D. W., Watney, W. L., and Rademacker, T. R., 2005, Unique near-surface seismic-reflection characteristics within an abandoned salt-mine well field, Hutchinson, Kansas [exp. abs.]: Society of Exploration Geophysicists, Houston, Texas, November 6–11, p. 1,041–1,044.
- Miller, R. D., Villella, A., Xia, J., and Steeples, D. W., 2005, Seismic investigation of a salt dissolution feature in Kansas; *in*, Near-Surface Geophysics, D. K. Butler, ed.: Society of Exploration Geophysicists, Investigations in Geophysics No. 13, p. 681–694.
- Miller, R. D., Xia, J., and Park, C. B., 2005, Seismic techniques to delineate dissolution features (karst) at a proposed power plant site; *in*, Near-Surface Geophysics, D. K. Butler, ed.: Society of Exploration Geophysicists, Investigations in Geophysics No. 13, p. 663–679.
- Miller, R. D., Xia, J., Steeples, D., Black, R., and Tsoflis, G., 2005, Applied research in high-resolution seismic reflection at KU: EEGS Publication, Fast Times, v. 10, no. 1, p. 26–27.
- Ohlmacher, G. C., 2005, Landslide-inventory map of the McLouth and Jarbalo 7.5-minute quadrangles, Jefferson and Leavenworth counties, Kansas: Kansas Geological Survey, Map M-117A, 1:36,000 scale.
- Ohlmacher, G. C., and Berendsen, P., 2005, Kinematics, mechanics, and potential earthquake hazards for faults in Pottawatomie County, Kansas, USA: Tectonophysics, v. 396, p. 227–244.
- Ohlmacher, G. C. and Davis, J. C., 2005, Landslide-hazard map of the McLouth and Jarbalo 7.5-minute quadrangles, Jefferson and Leavenworth counties, Kansas: Kansas Geological Survey, Map M-117B, 1:36,000 scale.
- Park, C. B., 2005, Multichannel analysis of surface waves (MASW)—An overview: Journal of the Korean Geophysical Society, v. 6, no. 2, p. 99–105.
- Park, C. B., and Miller, R. D., 2005, Passive MASW — data acquisition [abs.]: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2005), Atlanta, Georgia, April 3–7.
- Park, C. B., and Miller, R. D., 2005, MASW for quantifying change in shear wave velocity after deep dynamic compaction at a soil site: Journal of the Korean Geophysical Society, v. 6, no. 4, p. 245–259.
- Park, C. B., Miller, R. D., Ryden, N., Xia, J., and Ivanov, J., 2005, Combined use of active and passive surface waves: Journal of Environmental & Engineering Geophysics, v. 10, no. 3, p. 323–334.
- Park, C. B., Miller, R. D., Xia, J., and Ivanov, J., 2005, Multichannel analysis of passive surface waves—Modeling and processing schemes: Proceedings of the Geo-Frontiers Conference, Austin, Texas, January 23–26.
- Park, C. B., Miller, R. D., Xia, J., Ivanov, J., Sonnichsen, G. V., Hunter, J. A., Good, R. L., Burns, R. A., and Christian, H., 2005, Underwater MASW to evaluate stiffness of water-bottom sediments: The Leading Edge, v. 24, p. 724–728.
- Qi, L., and Carr, T. R., 2005, Prediction of carbonate lithofacies from digital well logs using neural network, Big Bow and Sand Arroyo Creek field, southwest Kansas: Computers and Geosciences, v. 32 p. 947–964 (Student Publication).
- Qi, L., Carr, T. R., Goldstein, R. H., 2005, An integrated geostatistical approach—Constructing 3D models and simulation of St. Louis carbonate reservoir systems; *in*, Reservoir Characterization—Integrating Technology

- and Business Practices, R. M. Slatt, org.: 26<sup>th</sup> Annual GCSSEPM Foundation, Bob F. Perkins Research Conference, p. 1,041–1,088 (Student Publication).
- Rademacker, T. R., Miller, R. D., Xia, J., Black, R., and Tsoflias, G., 2005, Enhancing the vibroseis technique through equipment noise reduction and optimizing the weighted sum signal [exp. abs.]: Society of Exploration Geophysicists, Houston, Texas, November 6–11, p. 33–36.
- Raef, A. E., Miller, R. D., Byrnes, A. P., Franseen, E. K., Watney, W. L., and Harrison, W. E., 2005, A new approach for weak time-lapse anomaly detection using seismic attributes—Geology and production data integrated monitoring of miscible EOR-CO<sub>2</sub> flood in carbonates [exp. abs.]: Society of Exploration Geophysicists, Houston, Texas, November 6–11, p. 2,426–2,429.
- Raef, A. E., Miller, R. D., Franseen, E. K., Byrnes, A. P., Watney, W. L., and Harrison, W. E., 2005, 4D seismic to image a thin carbonate reservoir during a miscible CO<sub>2</sub> flood—Hall–Gurney field, Kansas, USA: *The Leading Edge*, v. 24, no. 5, p. 521–526.
- Renwick, W. H., Smith, S. V., Bartley, J. D., and Buddemeier, R. W., 2005, The role of impoundments in the sediment budget of the conterminous United States: *Geomorphology*, v. 71, issue 1–2, p. 99–111.
- Ryden, N., and Park, C. B., 2005, Inversion of surface waves using phase velocity spectra: *Geophysics*, v. 71, no. 4, p. 49–58.
- Saunders, J. W., Mandel, R. D., Sampson, C. G., Allen, C. M., Allen, E. T., Bush, D. A., Feathers, J. K., Gremillion, K. J., Hallmark, C. T., Jackson, H. E., Johnson, J. K., Jones, R., Saucier, R. T., Stringer, G. L., and Vidrine, M. F., 2005, Watson Break, a Middle Archaic mound complex in northwest Louisiana: *American Antiquity*, v. 70, p. 631–668.
- Sawin, R. S., and West, R. R., 2005, Paleoecology of the Permian (Wolfcampian) phylloid alga *Calcipatera* from an in situ occurrence in Kansas, U.S.A.: Kansas Geological Survey, Current Research in Earth Sciences, Bulletin 251, pt. 1, <http://www.kgs.ku.edu/Current/2005/sawin/index.html>
- Sellwood, S. M., Healey, J. M., Birk, S., and Butler, J. J., Jr., 2005, Direct-push hydrostratigraphic profiling—Coupling electrical logging and slug tests: *Ground Water*, v. 43, no. 1, p. 19–29.
- Skelton, L. H., 2005, The Hugoton–Panhandle gas field: Oil-industry History, v. 6, no. 1, p. 73–77.
- Smith, S. V., Buddemeier, R. W., Wulff, F., and Swaney, D. P., 2005, C, N, P fluxes in the coastal zone; *in*, Coastal Fluxes in the Anthropocene, C. J. Crossland, H. H. Kremer, H. J. Lindeboom, J. I. Marshall Crossland, M. D. A. Le Tissier, eds.: Springer, Berlin–Heidelberg, New York, p. 95–143.
- Smith, S. V., Sleezer, R. O., Renwick, W. H., and Buddemeier, R., 2005, Fates of eroded soil organic carbon: Mississippi basin case study: *Ecological Applications*, v. 15, issue 6, p. 1,929–1,940.
- Smith, S. V., Swaney, D. P., Buddemeier, R. W., Scarsbrook, M. R., Weatherhead, M. A., Humborg, C., Eriksson, H., and Hannerz, F., 2005, River nutrient loads and catchment size: *Biogeochemistry*, v. 75, issue 1, p. 83–107.
- Sophocleous, M. A., 2005, Groundwater recharge and sustainability in the High Plains aquifer in Kansas, USA: *Hydrogeology Journal*, v. 13, no. 2, p. 351–365.
- Sophocleous, M. A., 2005, Author’s reply to comment on the “Climate change—Why water professionals care?” editorial by Marios Sophocleous {*Ground Water*, v. 42, no. 5, p. 637, 2004}, by R. T. Smith: *Ground Water*, v. 43, no. 1, p. 2–3.
- Thoms, A. V., Johnson, E., Caran, S. C., and Mandel, R. D., 2005, Glimpses of mammoth bone quarrying on North America’s Western Gulf Coastal plain—Two new mammoth localities near San Antonio: *in*, The World of Elephants—Short Papers and Abstracts of the 2nd International Congress, L. D. Agenbroad and R. L. Symington, eds.: The Mammoth Site of Hot Springs, South Dakota, Inc., Mammoth Site Scientific Papers, v. 4, p. 183–185.
- Ufnar, D. F., González, L. A., Ludvigson, G. A., Brenner, R. L., Witzke, B. J., and Leckie, D., 2005, Reconstructing a mid-Cretaceous landscape from paleosols in western Canada: *Journal of Sedimentary Research*, v. 75, no. 6, p. 984–996.
- Victorine, J., Watney, W. L., and Bhattacharya, S., 2005, Use of XML and Java for collaborative petroleum reservoir modeling on the internet: *Computers and Geosciences*, v. 31, no. 9, p. 1,151–1,164.
- Watney, W. L., Franseen, E. K., Byrnes, A. P., and Nissen, S., 2005, Contrasting styles and common controls on Middle Mississippian and Pennsylvanian carbonate platforms in the northern midcontinent, U.S.A.; *in*, Unconventional Reservoirs Technology and Strategies—Alternative Perspectives for the Permian Basin, P. Lufholm and D. Cox, eds.: West Texas Geological Society, Publication 05–115, p. 221–253.
- White, T. S., Witzke, B. J., Ludvigson, G. A., and Brenner, R. L., 2005, Distinguishing base-level change and climate signals in a Cretaceous alluvial sequence: *Geology*, v. 33, no. 1, p. 13–16.
- Witzke, B. J., 2005, The Ordovician Galena Group in Iowa and its regional stratigraphic relationships: Iowa DNR Geological Survey, Guidebook Series No. 24, p. 3–21.

- Xia, J., Chen, C., Tian, G., Miller, R. D., and Ivanov, J., 2005, Resolution of high-frequency Rayleigh-wave data: *Journal of Environmental & Engineering Geophysics*, v. 10, no. 2, p. 99–110.
- Xia, J., Doll, W. E., Miller, R. D., Gamey, T. J., and Emond, A. M., 2005, A moving hum filter to suppress rotor noise in high-resolution airborne magnetic data: *Geophysics*, v. 70, no. 4, p. 69–76.
- Xia, J., Geier, N. A., Miller, R. D., and Tapie, C. R., 2005, Orthogonal vibroseis sweeps: *Geophysical Prospecting*, v. 53, p. 677–688.
- Xia, J., and Xu, Y., 2005, Discussion on some practical equations with implications to high-frequency surface-wave techniques: *Proceedings of the Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP), Annual Meeting of EEGS, April 3–7, Atlanta, Georgia*, p. 1,089–1,104.
- Xia, J., Xu, Y., and Miller, R. D., 2005, Imaging dispersive energy by slant stacking [exp. abs.]: *Society of Exploration Geophysicists, Houston, Texas, November 6–11*, p. 1,061–1,064.
- Xu, Y., and Xia, J., 2005, Application of multi-channel electrical method in investigation of hydraulic channels in Qiu Jia Wan main dike of the Yangtze River, China: *Proceedings of the Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP), Annual Meeting of EEGS, April 3–7, Atlanta, Georgia*, p. 544–554.
- Xu, Y., Xia, J., and Miller, R. D., 2005, Finite-difference modeling of high-frequency Raleigh waves [exp. abs.]: *Society of Exploration Geophysicists, Houston, Texas, November 6–11*, p. 1,057–1,060.
- Zhan, X. Y., 2005, Parallel Fortran-MPI software for numerical inversion of the Laplace transform and its application to oscillatory water levels in groundwater environments: *Environmental Modelling and Software*, v. 20, no. 3, p. 279–284.

### **Nonrefereed/Unpublished Papers**

- Bhattacharya, S., Dubois, M. K., and Byrnes, A. P., 2005, Reservoir simulation of 9-section area around Flower A1 well—Chase/Council Grove reservoir systems: *Kansas Geological Survey, Open-file Report 2005–54*, 21 p. + appendices.
- Bhattacharya, S., Dubois, M. K., Byrnes, A. P., Nissen, S. E., Carr, T. R., Franseen, E. K., Shreve, M., Anderson, S., Gerlach, P. M., and Knoll, B., 2005, Field demonstration of horizontal infill drilling using cost-effective integrated reservoir modeling—Mississippian carbonates, central Kansas: *Kansas Geological Survey, Open-file Report 2005–28*, 379 p., [http://www.kgs.ku.edu/PRS/publication/2005/OFR05\\_28/index.html](http://www.kgs.ku.edu/PRS/publication/2005/OFR05_28/index.html)
- Bohling, G. C., and Wilson, B. B., 2005, Statistical quality control and geostatistical analyses of 2005 Kansas High Plains water level measurements: *Proceedings of IAMG 2005, GIS and Spatial Analysis*, v. 2, p. 1,012–1,017.
- Bohling, G. C., and Wilson, B. B., 2005, Statistical and geostatistical analysis of the Kansas High Plains water-table elevations, 2005 measurement campaign: *Kansas Geological Survey, Open-file Report 2005–6*, 43 p.
- Brady, L. L., and Newell, K. D., 2005, 29th forum of the coal geologist of the Western Interior coal region field trip, May 25, 2006, Phoenix coal company, Garland mine, Bourbon County, KS, and coalbed methane operations of dart Cherokee Basin Operating Company, LLC, Montgomery County, KS: *Kansas Geological Survey, Open-file Report 2005–31*, 45 ([http://www.kgs.ku.edu/PRS/publication/2005/OFR05\\_31/index.html](http://www.kgs.ku.edu/PRS/publication/2005/OFR05_31/index.html)).
- Buchanan, R., 2005, Review of “Oceans of Kansas—A Natural History of the Western Interior Sea,” by Michael J. Everhart: *Kansas History*, Autumn 2005, v. 28, no. 3, p. 220.
- Butler, J. J., Jr., and Whittemore, D. O., 2005, Arkansas River phreatophytes: *Kansas Geological Survey, Open-file Report 2005–17*, p. 4.9–4.12.
- Butler, J. J., Jr., Whittemore, D. O., and Kluitenberg, G. J., 2005, Ground water assessment in association with salt cedar control—Report on year one activities: *Kansas Geological Survey, Open-file Report 2005–19*, 28 p.
- Byrnes, A. P., 2005, Permeability, capillary pressure, and relative permeability properties in low-permeability reservoirs and the influence of thin, high-permeability beds on production; *in*, Gas in Low Permeability Reservoirs of the Rocky Mountain Region, M. G Bishop, S. P. Cumella, J. W. Robinson, and M. R. Silverman, eds.: *Rocky Mountain Association of Geologists, 2005 Guidebook CD*, p. 69–108.
- Byrnes, A. P., 2005, Tight gas sandstone relative permeability and capillary pressure properties important to reservoir characterization; *in*, Low Permeability Reservoirs in the Rockies: *Proceedings Rocky Mountain Association of Geologists and Petroleum Technology Transfer Council, August 29, Denver, Colorado*, 12 p.
- Byrnes, A. P., 2005, Rock properties of tight gas sandstones: *American Association of Petroleum Geologists, Short Course Notes*, 519 p.

- Byrnes, A. P., 2005, Petrophysical properties of Niobrara chalk NW Kansas, NE Colorado; *in*, PTTC Unconventional Gas Resources in Kansas: Proceedings Petroleum Technology Transfer, January 19, Wichita, Kansas, 32 p.
- Carr, T. R., 2005, Fiscal 2005 Kansas oil and gas production by operator: Kansas Geological Survey, Open-file Report 2005–52, 20 p., <http://www.kgs.ku.edu/PRS/publication/2005/2005-52/index.html>.
- Charlton, J. C., 2005, 3-D rephotographic survey of Alexander Gardner's "Across the Continent on the Union Pacific Railway, Eastern Division" based on the Kansas State Historical Society's stereographic series: Kansas Geological Survey, online at [www.kgs.ku.edu/Images/Gardner/](http://www.kgs.ku.edu/Images/Gardner/).
- Doveton, J. H., 2005, Petroleum geoscience data analysis—Course notes for C&PE 940 fall semester, 2005: Kansas Geological Survey, Open-file Report 2005–37, 223 p.
- Dubois, M. K., Byrnes, A. P., and Carr, T. R., 2005, Enhanced oil recovery—A green market for CO<sub>2</sub> from ethanol production: Fuel Ethanol Workshop, June 29, Kansas City, Missouri, 18 p.
- Dubois, M. K., and Goldstein, R. H., 2005, Accommodation model for Wolfcamp (Permian) redbeds at the updip margin of North America's largest onshore gas field: Kansas Geological Survey, Open-file Report 2005–24; <http://www.kgs.ku.edu/PRS/AAPG2005/2005-25/index.html>.
- Dunham, J., 2005, 2004 Kansas house districts and major river basins (map); *in*, GIS in State Government: Redlands, California, ESRI Press. v. 1, p. 30.
- Engard, B. R., McElwee, C. D., Healey, J. M., and Devlin, R., 2005, Hydraulic tomography and high-resolution slug testing to determine hydraulic conductivity distributions—Year 1: Kansas Geological Survey, Open-file Report 2005–36, 81 p.; [http://www.kgs.ku.edu/Hydro/Publications/2005/OFR05\\_36/index.html](http://www.kgs.ku.edu/Hydro/Publications/2005/OFR05_36/index.html).
- Gerhard, L. C., and Carr, T. R., 2005, Preparation of northern midcontinent petroleum atlas: Office of Scientific and Technical Information, March 28 Electronic full text available, 43 p., <http://www.osti.gov/energycitations/servlets/purl/838350-EtDzXP/native/838350.pdf> and <http://www.osti.gov/bridge/servlets/purl/843019-VrxhW2/native/843019.pdf>
- Healey, J. M., Tsofilas, G. P., Steeples, D. W., Vincent, P., Sloan, S. D., Blair, J., and McElwee, C. D., 2005, Geophysical techniques applied to a stream-aquifer system: Kansas Geological Survey, Open-file Report 2005–11; [http://www.kgs.ku.edu/Hydro/Publications/2005/OFR05\\_11/index.html](http://www.kgs.ku.edu/Hydro/Publications/2005/OFR05_11/index.html).
- Laflen, D. R., and Miller, R. D. 2005, 2005 annual water level data collection report for Kansas: Kansas Geological Survey, Open-file Report 2005–55.
- Macfarlane, P. A., Healey, J. M., and Wilson, B. B., 2005, The southeast Kansas Ozark aquifer water supply program Phase 1 project results: Kansas Geological Survey, Open-file Report 2005–15, 52 p.
- Macfarlane, P. A., Townsend, M. A., and Ohlmacher, G., 2005, Midcontinent meeting for the national karst map project—Field trip notes: Kansas Geological Survey, Open-file Report 2005–50, 71 p.
- Macfarlane, P. A., Wilson, B., and Bohling, G. C., 2005, Practical saturated thickness of the Ogallala in two small areas of southwest Kansas Groundwater Management District 3: Kansas Geological Survey, Open-file Report 2005–29, 27 p.
- Mandel, R. D., 2005, Geoarchaeological survey of the Cunningham recycle project area, Pratt and Kingman counties, Kansas: Kansas Geological Survey, Open-file Report 2005–1.
- Mandel, R. D., 2005, Geomorphological investigation in support of the archaeological survey of the proposed El Dorado, Kansas, wastewater treatment plant: Kansas Geological Survey, Open-file Report 2005–2.
- Mandel, R. D., 2005, Geomorphology; *in*, National Register Evaluations for the Proposed GCC Dacotah Limestone Mining Project with the Bureau of Land Management in Southwestern Custer County, South Dakota, R. P. Winham, L. A. Hannus, E. J. Lueck, L. Palmer, and L. Rossum, eds.: Archeology Laboratory, Augustana College, Sioux Falls, South Dakota, Archeological Contract Series No. 190, p. 46–137.
- Mandel, R. D., 2005, Geomorphological investigation in support of the Phase IV mitigation of site 14CO1310, Cowley County, Kansas; *in*, Phase II–IV Archaeological Data Recovery Investigations at Site 14CO1310, Cowley County, Kansas, T. L. Butler, C. M. Schoen, and S. E. Butler, eds.: Kansas Department of Transportation, Project No. 15–18K6413–01, The Louis Berger Group, Inc., Marion, Iowa, p. 256–270.
- Mandel, R. D., 2005, Geology; *in*, The Movie Draw Rock Shelter (39CU1401), Report of Preliminary Test Excavations, F. Sellet and M. Fosha, eds.: Report submitted to National Science Foundation, Washington, D.C., p. 49–60.
- Merriam, D. F., Hambleton, W. W., and Charlton, J. R., 2005, Kansas artistic geologists and illustrators: Kansas Geological Survey, Open-file Report 2005–33, 18 p.; <http://www.kgs.ku.edu/Publications/OFR/2005/Art/index.html>.
- Miller, R. D., and Ivanov, J., 2005, Seismic tests on IBWC levees—Weslaco, Texas: Kansas Geological Survey, Open-file Report 2005–57, 89 p.

- Miller, R.D., Ivanov, J., and Lambrecht, J. L., 2005, Seismic study at East Canyon Dam, Utah: Kansas Geological Survey, Open-file Report 2005-18, 60 p.
- Miller, R. D., Raef, A. E., Byrnes, A. P., and Harrison, W. E., 2005, Technical progress report, year 2, and plan for year 3—4-D high-resolution seismic reflection monitoring of miscible CO<sub>2</sub> injected into a carbonate reservoir: Kansas Geological Survey, Open-file Report 2005-32, 42 p. + cd-rom.
- Newell, K. D., 2005, Analysis of Marmaton and Cherokee Group cuttings samples for gas content—SunWest #6-1 Jabben well (sec. 6, T. 34 S., R. 15 E.), Montgomery County, Kansas: Kansas Geological Survey, Open-file Report 2005-41, 33 p.
- Newell, K. D., 2005, Analysis of Marmaton and Cherokee Group cuttings samples for gas content—Production Maintenance Service McClenning #1 well (sec. 32, T. 33 S., R. 16 E.), Montgomery County, Kansas: Kansas Geological Survey, Open-file Report 2005-43, 22 p.
- Newell, K. D., 2005, Analysis of Marmaton and Cherokee Group cuttings samples for gas content—Dart Cherokee Basin Operating Company #C4-19 Sycamore Springs Ranch well (sec. 19, T. 31 S., R. 15 E.), Montgomery County, Kansas: Kansas Geological Survey, Open-file Report 2005-48, 32 p.
- Newell, K. D., Carr, T. R., and Brown, W. M., 2005, Eastern Kansas CBNG shows promise: American Oil and Gas Reporter, v. 48, no. 8 (August), p. 135-138.
- Newell, K. D., and Gagnon, G., 2005, Analysis of Cherokee Group core and cuttings samples for gas content—Dart Cherokee Basin Operating Company Orr #BC3-34 well (sec. 34, T. 30 S., R. 15 E.), Wilson County, Kansas: Kansas Geological Survey, Open-file Report 2005-42, 18 p.
- Newell, K. D., Gagnon, G., and Beck, E., 2005, Analysis of Cherokee Group cuttings samples for gas content—BTA Oil Producers 20104 JV-P Walnut #5 SWD (sec. 5, T. 7 S., R. 21 E.), Atchison County, Kansas: Kansas Geological Survey, Open-file Report 2005-40, 23 p.
- Newell, K. D., and Johnson, T. A., 2005, Analysis of Kansas City, Marmaton, and Cherokee Group cuttings samples for gas content—Meritage KCM #22-44 Kipper well (sec. 22, T. 19 S., R. 19 E), Anderson County, Kansas: Kansas Geological Survey, Open-file Report 2005-46, 29 p.
- Newell, K. D., and Johnson, T. A., 2005, Analysis of Kansas City Group cuttings samples for gas content—Meritage KCM #34-41 Lankard well (sec. 34, T. 19 S., R. 19 E), Anderson County, Kansas: Kansas Geological Survey, Open-file Report 2005-47, 15 p.
- Newell, K. D., and Johnson, T. A., 2005, Analysis of Lansing-Kansas City, Marmaton, and Cherokee Group core samples for gas content—Colt Energy #B2-6 Spencer (sec. 6, T. 18 S., R. 21 E.), Franklin County, Kansas: Kansas Geological Survey, Open-file Report 2005-49, 59 p.
- Newell, K. D., Johnson, T. A., and Brown, W. M., 2005, Analysis of Marmaton and Cherokee Group cuttings samples for gas content—Dart Cherokee Basin Operating Company #CH-1 Holder well (sec. 1, T. 30S., R. 14 E.), Wilson County, Kansas: Kansas Geological Survey, Open-file Report 2005-44, 23 p.
- Newell, K. D., Johnson, T. A., and Brown, W. M., 2005, Analysis of Marmaton and Cherokee Group cuttings samples for gas content—Dart Cherokee Basin Operating Company #D4-26 Gritton well (sec. 26, T. 33 S., R. 14 E.), Montgomery County, Kansas: Kansas Geological Survey, Open-file Report 2005-45, 22 p.
- Newell, K. D., and Lange, J. P., 2005, Analysis of Marmaton and Cherokee Group cuttings samples for gas content—Meritage KCM #26-13 Garrison SWD well (sec. 26, T. 19 S., R. 19 E.), Anderson County, Kansas: Kansas Geological Survey, Open-file Report 2005-38, 35 p.
- Newell, K. D., and Lange, J. P., 2005, Analysis of Cherokee Group cuttings samples for gas content—Meritage KCM #13-31 Brown well (sec. 13, T. 22 S., R. 21 E.), Linn County, Kansas: Kansas Geological Survey, Open-file Report 2005-39, 30 p.
- Park, C. B., 2005, MASW—Horizontal resolution in 2D shear-velocity (Vs) mapping: Kansas Geological Survey, Open-File Report 2005-4, 11 p.
- Park, C. B., and Miller, R. D., 2005, Seismic characterization of wind turbine sites in Kansas by the MASW method: Kansas Geological Survey, Open-file Report 2005-23, 30 p. + appendices.
- Park, C. B., and Miller, R. D., 2005, Seismic characterization of wind turbine sites near Lawton, Oklahoma, by the MASW method: Kansas Geological Survey, Open-file Report 2005-22, 27 p. + appendices.
- Penurnadu, D., and Park, C. B., 2005, Multichannel analysis of surface wave (MASW) method for geotechnical site characterization: Geo-Frontiers Conference, Austin, Texas, Proceedings, January 23-26.
- Qi, L., and Carr, T. R., 2005, Lithofacies cross sections of the St. Louis Limestone, Big Bow and Sand Arroyo Creek fields, southwest Kansas: Kansas Geological Survey, Open-file Report 2005-14, 19 p.; [http://www.kgs.ku.edu/PRS/publication/2005/OFR05\\_14/index.html](http://www.kgs.ku.edu/PRS/publication/2005/OFR05_14/index.html) (Student Publication).

- Qi, L., and Carr, T. R., 2005, Lithofacies cross sections of the St. Louis Limestone, Big Bow and Sand Arroyo Creek fields, southwest Kansas: Kansas Geological Survey, Open-file Report 2005-14, 17 p.; [http://www.kgs.ku.edu/PRS/publication/2005/OFR05\\_16/index.html](http://www.kgs.ku.edu/PRS/publication/2005/OFR05_16/index.html) (Student Publication).
- Raef, A. E., Miller, R. D., Byrnes, A. P., Harrison, W. E., and Franseen, E. K., 2005, Time-lapse seismic monitoring of enhanced oil recovery CO<sub>2</sub>-flood in a thin carbonate reservoir, Hall-Gurney field, Kansas, U.S.A. (poster): American Association of Petroleum Geologists, Annual Meeting, Calgary, Alberta, June 22; Kansas Geological Survey, Open-file Report 2005-24, 7 p.
- Ryden, N., and Park, C. B., 2005, Seismic joint analysis for non-destructive testing of asphalt and concrete slabs: Geo-Frontiers Conference, Austin, Texas, Proceedings, January 23-26.
- Sawin, R. S., Buchanan, R. C., Evans, C. S., and McCauley, J. R., 2005, Field guide, 2005 field conference, central Great Plains—Water, recreation, and economic development: Kansas Geological Survey, Open-file Report 2005-17.
- Suchy, D. R., Buchanan, R., and Sophocleous, M. A., 2005, Drilling a water well on your land—What you should know: Kansas Geological Survey, Public Information Circular 23, May, 6 p.
- Sorensen, J. H., and Adkins-Heljeson, D., 2005, Library and archive materials available on the Kansas Geological Survey's website—Where we are and where we are headed: Geoscience Information Society, Proceedings, v. 35, p. 57-59.
- Townsend, M. A., 2005, Sources of nitrate at McPherson County Feeders, McPherson County, Kansas: Kansas Geological Survey, Open-file Report 2005-35, 21 p.
- Townsend—Responses to review for/by State and Federal agencies from the Kansas Geological Survey, including agency review transmittal forms, and environmental assessment comments for calendar year 2004: Kansas Geological Survey, Open-file Report 2005-7, reviews by Margaret Townsend.
- Townsend, M., and Whittemore, D. O., 2005, Identification of nitrate and chloride sources affecting municipal well waters of the city of McPherson, Kansas: Kansas Geological Survey, Open-file Report 2005-34, 34 p.
- Watney, W. L., 2005, Geological overview of the Niobrara Chalk natural gas play: PTTC Workshop on Unconventional Natural Gas, January 19, Wichita, KS; <http://www.nmcpttc.org/workshop/watney-niobrara7a.pdf>.
- West, R. R., and Sawin, R. S., 2005, Field geology maps, Geary County, Kansas (1:24,000 quadrangles—Dwight, Ogden, Swede Creek, and White City NE quadrangles): Kansas Geological Survey, Open-file Report 2005-9, 31 p., 4 maps.
- Whittemore, D. O., Butler, J. J., Jr., Healey, J. M., McKay, S. E., Aufman, M. S., and Brauchler, R., 2005, The impact of stream-aquifer interactions on ground-water quality in the alluvial aquifer of the middle Arkansas River: Kansas Geological Survey, Open-file Report 2005-5, poster.
- Whittemore, D. O., Grieve, E. R., Young, D. P., and Wilson, B. B., 2005, Water quality in the High Plains aquifer and the Cimarron River in Seward and Meade counties, Kansas: Kansas Geological Survey Open-file Report 2005-27, 36 p.
- Wilson, B. B., 2005, Maps of saturated thickness (2003-2005), change in water table (2000-2005) and estimated usable lifetime of the High Plains Aquifer in Kansas: Kansas Geological Survey, Open-file Report 2005-8; [http://hercules.kgs.ku.edu/geohydro/ofr/2005\\_8/ofr\\_2005\\_8.htm](http://hercules.kgs.ku.edu/geohydro/ofr/2005_8/ofr_2005_8.htm).
- Wilson, B. B., Bartley, J., Emmons, K., Bagley, J., Wason, J., and Stankiewicz, S., 2005, Water Information Management and Analysis System, version 5, for the web, user manual: Kansas Geological Survey, Open-file Report 2005-30, 31 p.; [http://hercules.kgs.ku.edu/geohydro/ofr/2005\\_30/ofr\\_2005\\_30.htm](http://hercules.kgs.ku.edu/geohydro/ofr/2005_30/ofr_2005_30.htm).
- Woods, J. J., and Sophocleous, M., 2005, Set of maps for Southwest Kansas Groundwater Management District: Kansas Geological Survey, Open-file Report 2005-20, 9 pls., scale 1:300,000.
- Xia, J., and Miller, R. D., 2005, Applications of integrated geophysical surveys in mapping the subsurface to a depth of 80 ft at a landfill in Salina, Kansas: Kansas Geological Survey, Open-file Report 2005-21, 32 p.
- Young, D. P., Macfarlane, P. A., Whittemore, D. O., and Wilson, B. B., 2005, Hydrogeologic characteristics and hydrologic changes in the Cimarron River basin, southwestern Kansas: Kansas Geological Survey, Open-file Report 2005-26, 41 p.
- Zhan, X., and Butler, J. J., Jr., Mathematical derivations of semianalytical solutions for pumping-induced drawdown and stream depletion in a leaky aquifer system: Kansas Geological Survey, Open-file Report 2005-10, 18 p.



## **Computer Software**

- Bartley, J.—Public Land Survey System (PLSS) datasets.
- Bartley, J.—Maintaining the loosely coupled distributed GIS framework for carbon sequestration-NATCARB.
- Bartley, J.—Building an index of geospatial web mapping services to help in the discovery and integration of geospatial data with national spatial data infrastructures. A search engine for online map services; <http://www.mapdex.org> (prototype); [http://hercules.kgs.ku.edu/jdb/Geodiscovery\\_outline.ppt](http://hercules.kgs.ku.edu/jdb/Geodiscovery_outline.ppt) (project description)
- Bartley, J.—Developing an XML based web-mapping tool for mapping distributed international geochemistry databases (NAVDAT, PETDB, GEOROCK).
- Bartley, J.—Developing robust online project management tools to manage enterprise level database (Oracle) and GIS software (SDE). Remote and dynamic management of ArcIMS, ArcSDE, & web services.
- Bartley, J.—Creating applications and datasets that help to integrate and visualize Kansas energy production.
- Bartley, J.—Spatially enabling tabular oil and gas databases for use in GIS analysis, cleanup, and visualization.
- Bartley, J.—Developing and coordinating projects that communicate GIS and tabular data within an open standards framework (Web Services, XML, GML, OGC, WMS, WFS).
- Bartley, J.—Developing Enterprise level web based GIS and RDBMS applications that enable users to visualize and analyze spatial-temporal and subsurface multi-dimensional datasets (Flash interface + backend database)
- Bartley, J.—Providing dynamic online mapping tools for distributed biogeographic databases; [www.iobis.org](http://www.iobis.org) & [www.fishbase.org](http://www.fishbase.org) & [www.cephbase.org](http://www.cephbase.org)
- Bartley, J.—GIS Data in Google Earth. Built an application that allows us to deliver image based data layers to Google Earth. [http://www.mapdex.org/blog/index.cfm?mode=cat&category\\_id=0974E29F-CB79-1B91-496009E394525A70](http://www.mapdex.org/blog/index.cfm?mode=cat&category_id=0974E29F-CB79-1B91-496009E394525A70)
- Bartley, J.—GIS Data in Google Maps (2005). Developed several tools that allow users to add ArcIMS data to Google Maps. <http://geoportal.kgs.ku.edu/googlemaps/>
- Bartley, J.—LEOWeb. Directed student in building the web-based version of the Township-Section-Range conversion tool. <http://geoportal.kgs.ku.edu/leoweb/>
- Bartley, J.—DASC Mapserver. Developed the DASC Mapserver. Mapserver allows easy access to DASC spatial data for developers and analysts. DASC was able to use Mapserver for the new catalog data viewer. <http://geoportal.kgs.ku.edu/mapserver/>
- Bartley, J.—KGS Web Services. A web-based application interface that allows programmatic access to geospatial data via XML based requests.
- Bartley, J.—Database Explorer. A web-based tool written in Coldfusion that allows any survey member, who has an account in Oracle, to log and view all of the oracle tables and views and ESRI SDE layers stored in Oracle for that particular user. <http://hercules.kgs.ku.edu/website/sdemanager/manage.cfm>
- Bartley, J.—ArcIMS Manager. A web-based tool written in ColdFusion that allows Survey Arcims developers to manage mapservices on six different mapservers
- Bartley, J.—ArcIMS Server Stability Check. A tool that every 10 minutes checks each ArcIMS server to see if it is responding. If it does not respond then an email is sent to me giving the name of the server, time, and error reported.
- Bartley, J.—Server Management Tool. A web based tool that allows certain survey staff to remotely start and stop services and to reboot the server (if needed). The web page is accessible on a secure site and every action is monitored and logged into an Oracle table.
- Bartley, J.—Current ArcIMS Server Status. A web-based tool that allows us to monitor current ArcIMS usage. ArcIMS MapServer Refresh. Assisted in developing an automated procedure to refresh ArcIMS connections to Oracle. ArcIMS Cold Fusion Web Services Connector. Working to develop replacement ColdFusion tags that submit request and process responses to ArcIMS written in XML through a CFMX webservice.
- Wilson, B.—Assisted with development of water budget for local township irrigation coalition and GMD #4.
- Wilson, B.—Developed prototype web page for direct volunteer/public entry of water-level measurements into WIZARD.
- Wilson, B.—Worked with the KDA–DWR to automate water-level data sharing and seamless data integration between Oracle RDBMS's.
- Wilson, B.—Worked with the GMD #3 Board in developing protocol for aquifer-subunit delineation.

## **Abstracts**

- Bartley, J., and Carr, T. R., 2005, NATCARB—Publishing spatial data within a geoportal framework: 2005 ESRI Petroleum User Group Conference Abstracts, Houston, Texas, March 7–9, p. 16;  
<http://www.esri.com/events/pug/index.html>.
- Bauer, J., Shea, J., Keller, J., Butler, J. J., Jr., Kluitenberg, G. J., and Whittemore, D. O., 2005, Diurnal water table fluctuations—An underutilized indicator of ground-water consumption by plants (abs.): Eos, American Geophysical Union, Transactions, v. 86, no. 52, Fall Meeting Supplement, Abstract B23A–1038.
- Bhattacharya, S., Dubois, M. K., Byrnes, A. P., Doveton, J. H., and Bohling, G. C., 2005, Reservoir engineering studies in Hugoton–Panoma systems (abs.): American Association of Petroleum Geologists, Midcontinent Section Meeting, Oklahoma City, Oklahoma, p. 31.
- Blackburn, T., Stockli, D., Carlson, R. W., Berendsen, P., Walter, J. D., and Winters, N. D., 2005, New (U-Th)/He age constraints on the emplacement of kimberlite pipes in northeastern Kansas (abs.): *Geochimica et Cosmochimica Acta*, v. 69, no. 10 (suppl.), p. A859.
- Bohling, G. C., Diver, P., Fils, D., Greer, D., and Reed, J., 2005, ADP and ConDoor—Two end-user tools built on the CHRONOS cyberinfrastructure: Geophysical Research Abstracts, v. 7, European Geosciences Union General Assembly Vienna, Austria.
- Bohling, G. C., Dubois, M. K., Doveton, J. H., and Byrnes, A. P., 2005, Automated processing of large data volumes for development of the Hugoton–Panoma geomodel (abs.): American Association of Petroleum Geologists, Midcontinent Section Meeting, Oklahoma City, Oklahoma, September 10–13, p. 29.
- Brady, L. L., 2005, Kansas coal—a review of several important factors of interest to coalbed methane exploration and production in eastern Kansas [abs.]: American Association of Petroleum Geologists, Midcontinent Section Meeting, Oklahoma City, Oklahoma, September 12, p. 26.
- Brown, W. M., Carr, T. R., and Newell, K. D., 2005 Stratigraphic architecture of Lower to Middle Pennsylvanian coalbeds in the Forest City basin of northeastern Kansas (abs.): American Association of Petroleum Geologists, Calgary, Canada, June 19–22, Annual Convention Abstracts Volume 14, p. A19.
- Buddemeier, R. W., Maxwell, B. A., Smith, S. V., Swaney, D. P., and Bricker, S. B., 2005, Tool and data needs for eutrophication assessment and management: ERF Annual Meeting, Norfolk, Virginia.
- Butler, J. J., Jr., Kluitenberg, G. J., Whittemore, D. O., Healey, J. M., and Zhan, X., 2005, Quantifying ground-water savings achieved by salt-cedar control measures—A demonstration project (abs.): Eos, American Geophysical Union, Transactions, v. 86, no. 18, Joint Assembly Supplement, Abstract H33B–06.
- Butler, J. J., Jr., Whittemore, D. O., and Kluitenberg, G. J., 2005, A field investigation of ground-water consumption by phreatophytes: Proceedings 14<sup>th</sup> Annual Kansas Hydrology Seminar, AIH & AEG, Topeka, Kansas, no. 14, p. 15–16.
- Byrnes, A. P., 2005, Issues with gas and water relative permeability in low-permeability sandstones: American Association of Petroleum Geologists, Proceedings, Hedberg Conference—Understanding, Exploring and Developing Tight Gas Sands, April 24–28, Vail, Colorado, 3 p.
- Byrnes, A. P., and Dubois, M. K., 2005, Relations between lithofacies and porosity, permeability, capillary pressure, and relative permeability in the Chase and Council Grove Groups, Hugoton embayment, Kansas: American Association of Petroleum Geologists, Proceedings, Midcontinent Section, September 10–13, Oklahoma City, Oklahoma.
- Byrnes, A. P., Ice, G., Malinowsky, M., Eby, D., Watney, W. L., and Johnston, D., 2005, Reservoir rock properties of the Cretaceous Niobrara chalk, NW Kansas and NE Colorado: American Association of Petroleum Geologists, Annual Meeting, June 19–22, Calgary, Alberta, 6 p.
- Byrnes, A. P., Miller, R. D., and Raef, A. E., 2005, Evolution of reservoir models with information from different recovery mechanisms and 3-D and 4-D seismic implications for CO<sub>2</sub> sequestration modeling: American Association of Petroleum Geologists, Annual Meeting, June 19–22, Calgary, Alberta.
- Byrnes, A. P., Watney, W. L., Cruz, E. F., Rankey, E. C., and Eberli, G. P., 2005, Permeability, capillary pressure, and electrical properties of Ocean Cay oolitic limestone: Proceedings of Comparative Sedimentology Laboratory, University of Miami, Annual Meeting, October 3, Miami, Florida, 5 p.
- Carr, T. R., Bartley, J. D., Iqbal, A., Look, K., and Nelson, K., 2005, NATCARB carbon cyberinfrastructure—A federation of distributed resources and distributed multidisciplinary expertise; *in*, The Science and Technology of Carbon Sequestration—Verification and Assessment of Natural and Deliberate Carbon Sinks: American Geophysical Union, Chapman Conference, San Diego, California, January 16–20, p. 39.
- Carr, T. R., Bartley, J. D., Iqbal, A., and Nelson, K., 2005, The national carbon sequestration database and geographic information system (NATCARB) carbon cyberinfrastructure—A federation of distributed resources

- and distributed multidisciplinary expertise: American Association of Petroleum Geologists, Annual Meeting, Calgary, Alberta, June 19–22, p. A24, <http://aapg.confex.com/aapg/cal2005/techprogram/A96761.htm>.
- Carr, T. R., Byrnes, A. P., Dubois, M. K., White S. W., and Nelson, R. G., 2005, Models for environmentally sound and economically viable carbon dioxide sequestration opportunities: U.S. Department of Energy, 4<sup>th</sup> Annual Conference on Carbon Sequestration, Alexandria, Virginia, May 2–5, Program with Abstracts, p. 23.
- Carr, T. R., and Merriam, D. F., 2005, CO<sub>2</sub> sequestration, petroleum accumulation, and groundwater flow in Kansas—A regional assessment: American Association of Petroleum Geologists, Annual Meeting, Calgary, Alberta, June 19–22, p. A23, <http://aapg.confex.com/aapg/cal2005/techprogram/A96751.htm>
- Carr, T. R., and Merriam, D. F., 2005, Use of large data sets for improved insight into the subsurface: Geological Society of America Annual Meeting, Salt Lake City, Utah, October 16–19, [http://gsa.confex.com/gsa/2005AM/finalprogram/abstract\\_96380.htm](http://gsa.confex.com/gsa/2005AM/finalprogram/abstract_96380.htm).
- Carr, T. R., and Nelson, R. G., 2005, Ongoing and future carbon sequestration demonstration projects in the United States: International Conference on IGCC & XtL Technologies, Freiberg, Germany, June 16–18, [http://www.iec.tu-freiberg.de/conference/pdf/20\\_Carr.pdf](http://www.iec.tu-freiberg.de/conference/pdf/20_Carr.pdf), Best paper award.
- Carr, T. R., Nissen, S. E., and Brownrigg, R., 2005, 3D visualization of geology, geophysics, and petroleum engineering: Proceedings, 16<sup>th</sup> Oil Recovery Conference, Wichita, Kansas, April 6–7, p. 3.
- Carr, T. R., Victorine, J. R., Bartley, J. D., Moore, M. C., Iqbal, A., Hunsinger, K., Ponnusamy, P., and Look, K. K., 2005, Kansas digital petroleum atlas—A step toward a cyberinfrastructure for the oil and gas reservoirs in the Hugoton embayment: American Association of Petroleum Geologists, Midcontinent Section Meeting, Oklahoma City, Oklahoma, September 8–13, p. 33, <http://www.ocgs.org/2005Midcon/Technical%20Presentations%20-%20Oral%20-%20Reduced%20.pdf>.
- Cervato, C., Fils, D., Bohling, G., Diver, P., Greer, D., Lambi, B., Reed, J., and Tang, X., 2005, CHRONOS—Geoinformatics platform for global geosciences: American Geophysical Union, Fall Meeting, Program and Abstracts.
- Cluff, R. C., Shaley, K. W., and Byrnes, A. P., 2005, Permeability jail and implications for “basin centered gas” production and resource assessment: American Association of Petroleum Geologists, Proceedings, Hedberg Conference—Understanding, Exploring and Developing Tight Gas Sands, April 24–28, Vail, Colorado, 3 p.
- Cluff, R. C., Shaley, K. W., and Byrnes, A. P., 2005, Permeability jail and implications for “basin centered gas” production and resource assessment: West Texas Fall Symposium, West Texas Geological Society, Publication No. 05–1 15, Midland, Texas, 3 p.
- Devlin, J. F., and Sophocleous, M. A., 2005, The water budget myth explored: NGWA Ground Water Expo, Interest Group Session—Ground Water Availability, December 13–16, Cobb County, Georgia.
- Doveton, J. H., 2005, Log petrophysics of the Lower Permian Chase Group in the Hugoton gas field of southwestern Kansas (abs.): American Association of Petroleum Geologists, Midcontinent Meeting, Oklahoma City, Oklahoma, p. 32.
- Doveton, J. H., and Hoth, P., 2005, Paleosol characterization and identification in the subsurface using nuclear logs—A case study from the Kansas Cretaceous (abs.): American Association of Petroleum Geologists, Convention Abstracts, v. 14, p. A37.
- Dubois, M. K., and Byrnes, A. P., 2005, Reservoir pressures suggest communication between Hugoton and Panoma fields and provide insights on the nature of the connections: American Association of Petroleum Geologists, Midcontinent Section Meeting, September 10–13, Oklahoma City, Oklahoma.
- Dubois, M. K., Byrnes, A. P., and Bohling, G. C., 2005, Geologic model for the giant Hugoton and Panoma fields (abs.): American Association of Petroleum Geologists, Midcontinent Section Meeting, Oklahoma City, Oklahoma, September 10–13.
- Dubois, M. K., Byrnes, A. P., Carr, T. R., Bohling, G. C., Bhattacharya, S., Doveton, J. H., Victorine, J. R., and Winters, N. D., 2005, Overview of the Hugoton Asset Management Project, southwest Kansas and Oklahoma Panhandle (abs.): American Association of Petroleum Geologists, Midcontinent Section Meeting, Oklahoma City, Oklahoma, September 10–13, p. 29.
- Dubois, M. K., and Goldstein, R. H., 2005, Accommodation model for Wolfcamp (Permian) redbeds at the updip margin of North America's largest onshore gas field (abs.): American Association of Petroleum Geologists, Annual Meeting, Abstracts, v. 14, p. A38.
- Dunham, J. W., Wright, G. W., III, Ross, J. A., and Johnson, W. C., 2005, Innovations in current Kansas geologic mapping (abs.): Geological Society of America, Abstracts with Programs, v. 37, no. 3, p. 147.
- Fils, D., Bohling, G., Cervato, C., Diver, P., Greer, D., Lambi, B., Reed, J., and Tang, X., 2005, CHRONOS—Data syndication and semantics for the geosciences: Geological Society of America, Fall Meeting, Program and Abstracts.

- Fils, D., Bohling, G., Cervato, C., Diver, P., Greer, D., Reed, J., and Tang, X., 2005, Role of semantic practices in CHRONOS system architecture: Geological Society of America, Program with Abstracts, v. 37, no. 7, p. 417.
- Greer, D., G. Bohling, P. Diver, D. Fils, C. Cervato, and C. Baru, 2005, A data infrastructure to support earth history research, Geological Society of America Abstracts with Programs, v. 37, no. 7, p. 416.
- Harbaugh, J. W., Merriam, D. F., and Xia, J., 2005, Meteor impact features in Kansas? Why not? The Edgerton structure may be one: SEPM (Society for Sedimentary Geology) Research Conference, The Sedimentary Record of Meteorite Impacts, Springfield, Missouri, May 21–22.
- Hollyer, G., Doll, W., and Xia, J., 2005, Chinese E&E Geophysics Conference a Success!: EEGS Publication, Fast Times, v. 9, no. 3, p. 33.
- Hunter, J. A., Pullan, S. E., Good, R. L., Burns, R. A., Douma, M., Miller, R. D., Park, C. B., and Xia, J., 2005, Measuring sub-seabottom seismic velocities—Some unusual experiments: Proceedings of the Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2005), Proceedings on CD ROM.
- Kluitenberg, G. J., Butler, J. J., Jr., and Whittemore, D. O., 2005, A field investigation of major controls on phreatophyte-induced fluctuations in the water table (abs.): ASA, CSSA, and SSSA, Madison, Wisconsin, Annual Meetings Abstracts [CD-ROM].
- Ludvigson, G. A., González, L. A., Kirkland, J. I., You, H., Ufnar, D. F., Carpenter, S. J., and Davis, J., 2005, Stable isotope paleorecords, Early Cretaceous Yixian Fm (Barremian), Liaoning Province, P.R. China—Paleohydrologic and paleoclimatic interpretations: Geological Society of America, Program with Abstracts, v. 37, no. 7, p. 458.
- Ludvigson, G. A., González, L. A., Ufnar, D. F., White, T. S., Witzke, B. J., and Brenner, R. L., 2005, Exploring the role of the hydrologic cycle in climate model simulations of past Greenhouse worlds: Annual Meeting of Iowa Academy of Science, Program Abstracts 117th Session, Abstract 104.
- Ludvigson, G. A., Ufnar, D. F., González, L. A., Witzke, B. J., and Brenner, R. L., 2005, Reconciling the stable isotopic paleohydrology of pedogenic siderites and calcites: Geological Society of America, Program with Abstracts, v. 37, no. 5, p. 86.
- Lynott, M., Weymouth, J., Mandel, R. D., Dalan, R., and Bevan, B., 2005, Ohio Hopewell earthen construction—A view from the Hopeton Earthworks: Society for American Archaeology, 70th Annual Meeting, Salt Lake City, Utah, April.
- Macfarlane, P. A., and Townsend, M. A., 2005, Crystal Spring—A window into the hydrogeology of the Flint Hills region of Kansas: Geological Society of America, Abstracts with Programs, v. 37, no. 7, p. 438.
- Macfarlane, P. A., Townsend, M. A., and Bohling, G. C., 2005, The prototype Plume Busters software—A new tool for computer-assisted instruction in undergraduate-level earth and environmental science education: Geological Society of America, Abstracts with Programs, v. 37, no. 7, p. 515.
- Macfarlane, P. A., Wilson, B. B., and Bohling, G. C., 2005, Practical saturated thickness of the Ogallala in two small areas of Southwest Kansas Groundwater Management District 3 (abs.): American Institute of Hydrology, Kansas Section, and Association of Engineering Geologist, Kansas City/Omaha Section, Annual Kansas Hydrology Seminar, Program with Abstracts, no. 14, p. 11–12.
- Mandel, R. D., Holen, S., and Hofman, J. L., 2005, Geoarchaeology of early Paleoindian and possible pre-Clovis cultural deposits at the Kanorado locality, northwestern Kansas: Geological Society of America, Salt Lake City, Utah, October, v. 37, no. 7, p. 154–155.
- Merriam, D. F., Hambleton, W. W., and Charlton, J. R., 2005, Kansas artistic geologists and illustrators (abs.): Geological Society of America, Abstracts with Programs, v. 37, no. 7, p. 230.
- Miller, R. D., Ivanov, J., Markiewicz, R. D., and O’Connell, D., 2005, Estimating vibration response of East Canyon Dam, Utah, from P-, S-, and surface-wave measurements: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2005), Atlanta, Georgia, April 3–7, p. 1,025–1,032.
- Miller, R. D., Ivanov, J., Steeples, D. W., Watney, W. L., and Rademacker, T. R., 2005, Unique near-surface characteristics at the site of a catastrophic collapse above a brine salt mine, Hutchinson, Kansas (exp. abs.): Society of Exploration Geophysicists, Expanded Abstracts, v. 24, p. 1,041.
- Miller, R. D., Ivanov, J., Steeples, D. W., Watney, W. L., and Rademacker, T. R., 2005, Unique near-surface seismic-reflection characteristics within an abandoned salt-mine well field, Hutchinson, Kansas: Society of Exploration Geophysicists, p. 1,041–1,044.
- Miller, R. D., Raef, A. E., Byrnes, A. P., and Harrison, W. E., 2005, 4-D seismic—Application for CO<sub>2</sub> sequestration assurances [abs.]: American Association of Petroleum Geologists, Midcontinent Section Meeting, Oklahoma City, Oklahoma, September 10–13.

- Miller, R. D., Raef, A. E., and Harrison, W. E., 2005, Seismic imaging to monitor a miscible CO<sub>2</sub> flood in a thin carbonate reservoir—Hall–Gurney field, Russell County, Kansas: American Association of Petroleum Geologists, Midcontinent Section Meeting, September 10–13, Oklahoma City, Oklahoma.
- Miller, R. D., Xia, J., Harding, R. S., and Steeples, D. W., 2005, High-resolution seismic investigation of a surface collapse feature at Weeks Island Salt Dome, Louisiana [abs.]: American Geophysical Union, 2005 Joint Assembly, New Orleans, Louisiana, May 23–27, published on CD.
- Montgomery, P., Franseen, E. K., Goldstein, R. H., and Toomey, N. D., 2005, A high-resolution chronostratigraphy and rock magnetic record for tortonian shallow-water carbonate sequences, Cerro de Ricardillo, SE Spain—Identifying climatic and sea-level cycles using magnetic techniques: American Association of Petroleum Geologists, 2005 Annual Convention Abstracts Volume, p. A94.
- Newell, K. D., 2005, Low-BTU gases in Kansas; a general survey [ext. abs.]: North Midcontinent Petroleum Technology Transfer Council Symposium on Unconventional Gas Resources in Kansas, January 19, Wichita, Kansas, p. 69–74.
- Newell, K. D., 2005, Trends in composition of Morrowan gases in Kansas (abs.): Symposium on Morrow and Springer in the Southern Midcontinent: Oklahoma Geological Survey, Conference Abstracts, p. 19.
- Newell, K. D., 2005, Low-BTU gas areas in Kansas (abs.): American Association of Petroleum Geologists, Midcontinent Section Meeting Abstracts, Oklahoma City, Oklahoma, p. 33.
- Newell, K. D., Johnson, T. A., Brown, W. M., Lange, J. P., and Carr, T. A., 2005, Geological and geochemical factors influencing the emerging gas play in the Cherokee and Forest City basins in eastern Kansas: American Association of Petroleum Geologists, 2005 Midcontinent Section Meeting, Oklahoma City, Oklahoma, September 12–13.
- Nissen, S. E., Carr, T. R., and Marfurt, K. J., 2005, Using new 3-D seismic attributes to identify subtle fracture trends in midcontinent Mississippian carbonate reservoirs: American Association of Petroleum Geologists, Annual Meeting, Calgary, Alberta, June 19–22, v. 14, p. A100; <http://aapg.confex.com/aapg/cal2005/techprogram/A96676.htm>.
- Ohlmacher, G. C., and Macfarlane, P. A., 2005, The need for a better karst hazard estimation procedure for Penn–Perm limestones of the midcontinent: American Association of Petroleum Geologists, Midcontinent Meeting.
- Ohlmacher, G. C., Newell, K. D., Andereck, Z., and Høglund, C., 2005, Spatial variations in joint orientations in central Kansas; implications for tectonics of the midcontinent (abs.): Geological Society of America, Abstracts with Programs, v. 37, no. 7, p. 236.
- Park, C. B., 2005, Shear-wave velocity profiling by the surface-wave (MASW) method: Proceedings of the Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2005), Proceedings on cd-rom.
- Park, C. B., and Miller, R. D., 2005, Multichannel analysis of passive surface waves—Modeling and processing schemes: Proceedings of the Geo-Frontiers conference, Austin, Texas, January 23–26, no. 2, p. 37.
- Park, C. B., Ryden, N., and Miller, R. D., 2005, Inversion of MASW surface waves at soil site by using phase velocity spectrum [abs.]: GeoFrontiers Conference, Austin, Texas, January 23–26.
- Raef, A. E., Miller, R. D., Byrnes, A. P., and Harrison, W. E., 2005, Rock physics and seismic-modeling-guided application of 4D-seismic attributes to monitoring enhanced oil recovery CO<sub>2</sub> flood in a thin carbonate reservoir, Hall–Gurney field, Kansas, U.S.A. [abs.]: American Association of Petroleum Geologists, June 19–22, Calgary, Alberta.
- Raef, A. E., Miller, R. D., Byrnes, A. P., Franseen, E. K., Watney, W. L., and Harrison, W. B., 2005, A new approach for weak time-lapse anomaly detection using seismic attributes—Geology and production data integrated monitoring of miscible EOR-CO<sub>2</sub> flood in carbonates: Society of Exploration Geophysicists, Expanded Abstracts, v. 24, p. 2,426.
- Raef, A. E., Miller, R. D., Byrnes, A. P., and Harrison, W. E., 2005, Impact of improved seismic resolution and signal-to-noise ratio on monitoring pore-fluid composition changes—CO<sub>2</sub>-injection, Hall–Gurney field, Kansas, USA [abs.]: American Association of Petroleum Geologists, April 9–12, Houston, Texas.
- Raef, A. E., Miller, R. D., Byrnes, A. P., Harrison, W. B., and Franseen, E. K., 2005, Rock physics and seismic modeling guided application of 4-D seismic attributes to monitoring enhanced oil recovery CO<sub>2</sub>-flood in a thin carbonate reservoir, Hall–Gurney field, Kansas, U.S.A.: American Association of Petroleum Geologists, Annual Convention Abstracts Volume, v. 14, p. A114.
- Raef, A. E., Miller, R. D., Byrnes, A. P., Harrison, W. E., and Franseen, E. K., 2005, Time-lapse seismic monitoring of enhanced oil recovery CO<sub>2</sub>-flood in a thin carbonate reservoir, Hall–Gurney field, Kansas, U.S.A.: American Association of Petroleum Geologists, Calgary, Alberta, June 22; Kansas Geological Survey, Open-file Report 2005–24.

- Salcedo-Mariduena, G. A., and Carr, T. R., 2005, Regional sequence stratigraphy and depositional environments of the Lower Pennsylvanian in southwest Kansas: Proceedings for Symposium on the Morrow and Springer in the Southern Midcontinent, May 10–11, Oklahoma City, Oklahoma, p. 5 (Student Publication).
- Shaley, K. W., Cluff, R. M., and Byrnes, A. P., 2005, Water production from tight-gas Rocky Mountain basins and the implications for petroleum systems: Proceedings, Rocky Mountain Association of Geologists and Petroleum Technology Transfer Council, Low Permeability Reservoirs in the Rockies, August 29, Denver, Colorado, 5 p.
- Shea, J., Bauer, J., Keller, J., Butler, J. J., Jr., Kluitenberg, G. J., Whittemore, D. O., Loheide, S. P., II, and Jin, W., 2005, An assessment of the vulnerability of native phreatophytes to replacement by invasive species in a midcontinent riparian setting (abs.): Eos, American Geophysical Union, Transactions, v. 86, no. 52, Fall Meeting Supplement, Abstract B23A–1037.
- Smith, J. J., Hasiotis, S. T., and Kraus, M. J., 2005, Morphologic and paleoenvironmental implications of adhesive meniscate burrows (AMBs) common to paleosols of the Paleogene Willwood Formation, Bighorn basin, Wyoming, and other continental deposits: G-Hawk Symposium, Geology Department, University of Kansas, Program and Abstract Volume.
- Smith, J. J., Hasiotis, S. T., Kraus, M. J., and Woody, D., 2005, Ichnofossils in alluvial deposits and paleosols of the lower Eocene Willwood Formation, Bighorn basin, Wyoming: American Association of Petroleum Geologists, Annual Convention, Abstracts Volume, v. 14, p. 130.
- Smith, J. J., Woody, D. T., Hasiotis, S. T., and Kraus, M. J., 2005, Pedogenic overprinting of crayfish-burrowed alluvial deposits in the Paleogene Willwood Formation, Bighorn basin, Wyoming: Geological Society of America, Annual Meeting Program, v. 37, no. 7, p. 444.
- Sophocleous, M. A., 2005, Groundwater sustainability and its application in Kansas: Geological Society of America, 39<sup>th</sup> Annual Meeting, North-Central Section, Abstracts with Programs, May 19–20, University of Minnesota, Minneapolis, v. 37, no. 5, p. 21.
- Sophocleous, M. A., Bardsley, W. E., and Healey, J., 2005, A rainfall loading response recorded at 300 meters depth—Implications for geological weighing lysimeters: Geological Society of America, Annual Meeting, Salt Lake City, Utah, October 16–19, Abstracts with Program, v. 37, no. 7, p. 359.
- Townsend, M. A., and Macko, S. A., 2005, Evapoconcentration not an indicator of nitrate in Kansas ground water: 15<sup>th</sup> V. M. Goldschmidt Conference, May 2005, Moscow, Idaho, *Geochimica et Cosmochimica Acta*, v. 69, no. 10, p. A605, [http://www.the-conference.com/2005/gold2005/web\\_pdfs/S66.pdf](http://www.the-conference.com/2005/gold2005/web_pdfs/S66.pdf).
- Townsend, M. A., Macfarlane, P. A., Sophocleous, M. A., and Whittemore, D. O., 2005, Overview of anthropogenic and natural contaminant impacts on the High Plains aquifer in Kansas, USA: Geological Society of America, Annual Meeting, Salt Lake City, Utah, October 16–19, Abstracts with Programs, v. 37, no. 7, p. 248.
- Townsend, M. A., Macfarlane, P. A., Sophocleous, M. A., and Whittemore, D. O., 2005, Overview of anthropogenic and natural contaminant impacts on the High Plains aquifer in Kansas: 14<sup>th</sup> Annual Kansas Hydrology Seminar, American Institute of Hydrology–Kansas Section and Association of Engineering Geologists–Kansas City/Omaha Section, Topeka, Kansas, November 18.
- Ufnar, D. F., Ludvigson, G. A., González, L. A., Davis, J., and Atchley, S., 2005, Mid-Cretaceous evaporation rates estimated from pedogenic carbonate isotopic values in the Glen Rose Formation, Texas: Geological Society of America, Abstracts with Programs, v. 37, no. 7, p. 357.
- Ufnar, D. F., Ludvigson, G. A., González, L. A., Davis, J., and Atchley, S., 2005, Modeling enhanced aridity from pedogenic carbonates in the mid-Cretaceous dry belt—The upper Glen Rose Formation, Texas: Geological Society of America, Abstracts with Programs, v. 37, no. 5, p. 86.
- Watney, W. L., Bhattacharya, S., Byrnes, A., Doveton, J., and Brownrigg, R., 2005, Geo-engineering modeling of Morrow/Atokan incised-valley fill deposits using web-based freeware for incremental field exploitation and play development: Oklahoma Geological Survey Workshop on Morrow and Springer Strata in the Southern Midcontinent; also presented at Tulsa Geological Society meeting, January, and Kansas Geological Society meeting, February.
- Watney, W. L., Franseen, E. K., Byrnes, A. P., Miller, R. D., and Raef, A. E., 2005, Comparison of seismically imaged Pennsylvanian ooid shoal geometries with modern—Implications for reservoir heterogeneity and lithofacies distribution [abs.]: 26th Annual GCSSEPM Foundation Conference, Houston, Texas, December 3–6.
- Watney, W. L., Franseen, E. K., Byrnes, A. P., Miller, R. D., Raef, A. E., Reeder, S. L., and Rankey, E. C., 2005, Characterization of seismically imaged Pennsylvanian ooid shoal geometries and comparison with modern [abs.]: American Association of Petroleum Geologists, April 9–12, Houston, Texas.
- Watney, W. L., Franseen, E. K., Byrnes, A. P., and Nissen, S., 2005, Contrasting styles and common controls on Middle Mississippian and Pennsylvanian carbonate platforms of the greater midcontinent: West Texas Geological Society, Bulletin, v. 45, no. 2, p. 26.

- Watney, W. L., Franseen, E. K., Byrnes, A. P., and Nissen, S., 2005, Contrasting styles and common controls on Middle Mississippian and Upper Pennsylvanian carbonate reservoir strata in the upper midcontinent, U.S.A.: American Association of Petroleum Geologists, Calgary, Alberta, June 19–22, Annual Convention Abstracts Volume, v. 14, p. A150.
- Whipkey, C. E., Tibert, N. E., Cramer, K., Ludvigson, G. A., Witzke, B. J., and Tanko, S., 2005, Allogenic sea level cycles from the Cenomanian–Turonian Greenhorn marine cycle—New bulk carbonate and foraminiferal data from the Dakota, Graneros, and Greenhorn Formations in western Iowa: Geological Society of America, Abstracts with Programs, v. 37, no. 1, p. 70.
- Whittemore, D. O., 2005, Identification and fate of oil-brine contamination in different hydrogeologic settings (abs.): Geological Society of America, Abstracts with Programs, v. 37, no. 7, p. 24.
- Whittemore, D. O., and Young, D. P., 2005, Impact of water-level declines in the High Plains aquifer on flow and water quality of the Cimarron River in Seward and Meade counties, Kansas: Proceedings 14<sup>th</sup> Annual Kansas Hydrology Seminar, AIH & AEG, Topeka, Kansas, Program with Abstracts, no. 14, p. 20.
- Winters, N. D., Dubois, M. K., and Carr, T. R., 2005, Depositional model and distribution of marginal marine sands in the Chase Group, Hugoton gas field, southwest Kansas and Oklahoma Panhandle: American Association of Petroleum Geologists, Midcontinent Section Meeting, Oklahoma City, Oklahoma, September 8–13, p. 30; <http://www.ocgs.org/2005Midcon/Technical%20Presentations%20-%20Oral%20-%20Reduced%20.pdf> (Student Publication).
- Woody, D. T., Smith, J. J., Kraus, M. J., and Hasiotis, S. T., 2005, Absence of preserved manganiferous rhizoliths within the PETM interval and its climatic implications: Geological Society of America, Annual Meeting Program, v. 37, no. 7, p. 414.
- Xia, J., and Xu, Y., 2005, Discussion on four practical equations of high-frequency surface-wave techniques: Symposium on the Application of Geophysics to Environmental and Engineering Problems (SAGEEP) Annual Meeting of the Environmental and Engineering Geophysical Society (EEGS), April 3–7, Atlanta, Georgia, 1 p.
- Xia, J., Xu, Y., and Miller, R. D., 2005, Current development of estimation of near-surface elastic moduli by analysis of Rayleigh waves [abs.]: 2005 Joint Assembly, The American Geophysical Union, New Orleans, Louisiana, May 23–27, published on CD.
- Xu, Y., and Xia, J., 2005, Investigation of water leakage in Qiu Jia Wan main dam of the Yangtze River using a multi-channel electrical method: Symposium on the Application of Geophysics to Environmental and Engineering Problems (SAGEEP), Annual Meeting of the Environmental and Engineering Geophysical Society (EEGS), April 3–7, Atlanta, Georgia, 1 p.

## **Presentations**

- Allison, M. L.—Presentation on “Kansas Energy” to Wichita Lions Club, Wichita, Kansas, January 12.
- Allison, M. L.—Presentation on “2005 Kansas Energy Report” to Joint hearing, Senate & House Utilities Committees, January 13, Topeka, Kansas.
- Allison, M. L.—Presentation on “Wind & Prairie Policy” to Kansas Energy Council, January 19, Topeka, Kansas.
- Allison, M. L.—Presentation on “Governor’s Wind & Prairie Policy” to House Utilities Committee, January 21, Topeka, Kansas.
- Allison, M. L.—Presentation on “Kansas Energy” to 55th Annual Environmental Engineering Conference, February 2, University of Kansas, Lawrence, Kansas.
- Allison, M. L.—Presentation on “Wind & Prairie Policy” to Kansas Association of Counties, Day at the Capitol, Topeka, Kansas, February 15.
- Allison, M. L.—Presentation on “Kansas Energy Developments” to Kansas Geological Society, Wichita, Kansas, February 16.
- Allison, M. L.—Presentation on “Kansas Energy Opportunities and Challenges for Rural Kansas” to Rural Life Task Force, Salina, Kansas, February 17 (presentation and discussion).
- Allison, M. L.—Presentation on “Wind Energy in Kansas” to League of Women Voters, Johnson County, Kansas, April 2.
- Arnold D., and Butler, J. J., Jr., Salt-cedar control activities and water-table monitoring on the Arnold Ranch, Clark County, Kansas, an invited presentation to the CPR for Wetlands and Streams II Conference, Wichita, Kansas, September 28.
- Bartley, J. D., and Iqbal, A., Two guest lectures for Geography 758 at University of Kansas, Lawrence, Kansas, [http://hercules.kgs.ku.edu/jdb/GEOG\\_758\\_XML\\_ARCIMS.ppt](http://hercules.kgs.ku.edu/jdb/GEOG_758_XML_ARCIMS.ppt).

- Bartley, J. D., Carr, T., and Iqbal, A., NatCarb—Publishing spatial data within a geoportal framework, at Regional Carbon Sequestration 2005 Meeting, Pittsburgh, Pennsylvania,  
[http://hercules.kgs.ku.edu/kgs/oilgas/powerpoints/natcarb\\_recarbSEQ\\_2005.ppt](http://hercules.kgs.ku.edu/kgs/oilgas/powerpoints/natcarb_recarbSEQ_2005.ppt).
- Bartley, J. D., MAPDEX + Google Earth—GIS data discovery and visualization, at KU GIS Day Symposium,  
[http://hercules.kgs.ku.edu/jdb/Mapdex\\_GE\\_GISDAY\\_2005\\_public.ppt](http://hercules.kgs.ku.edu/jdb/Mapdex_GE_GISDAY_2005_public.ppt).
- Bartley, J. D., MAPDEX—A global index of distributed web map services, at ESRI Users Conference, Kansas City ArcInfo Users Group, [http://hercules.kgs.ku.edu/kgs/oilgas/powerpoints/kcaiug\\_mapdex.ppt](http://hercules.kgs.ku.edu/kgs/oilgas/powerpoints/kcaiug_mapdex.ppt).
- Bartley, J. D., MAPDEX—A global index of distributed web map services, at ESRI Users Conference, San Diego, California.
- Bartley, J. D., 3D visualization of Kansas oil and gas fields, at KGS GSAC meeting, June.
- Bartley, J. D., MAPDEX—A global index of distributed web map services, at FGDC Interagency Coordination Meeting, National Archives, Washington D.C., [http://www.fgdc.gov/fgdc/coorwg/2005/may/fgdc\\_mapdex.ppt](http://www.fgdc.gov/fgdc/coorwg/2005/may/fgdc_mapdex.ppt).
- Bartley, J. D., NATCARB—Publishing spatial data within a geoportal framework, at FGDC Interagency Coordination Meeting, National Archives, Washington D.C.,  
[http://www.fgdc.gov/fgdc/coorwg/2005/may/fgdc\\_natcarb.ppt](http://www.fgdc.gov/fgdc/coorwg/2005/may/fgdc_natcarb.ppt).
- Bartley, J. D., and Carr, T. R., NATCARB—Publishing spatial data within a geoportal framework, at ESRI Petroleum Users Group Conference, Houston, Texas,  
[http://hercules.kgs.ku.edu/kgs/oilgas/powerpoints/Netl\\_2005mtg.ppt](http://hercules.kgs.ku.edu/kgs/oilgas/powerpoints/Netl_2005mtg.ppt).
- Butler, J. J., Jr., Diurnal water-table fluctuations—An underutilized indicator of groundwater consumption by plants, an invited presentation given as part of the Environmental Seminar Series at the Desert Research Institute, Reno, Nevada, November 4.
- Butler, J. J., Jr., Whittemore, D. O., and Kluitenberg, G. J., Studies of ground-water consumption by phreatophytes in river valleys of Kansas: Transactions, Kansas Academy of Science, v. 108, no. 3/4, p. 165–166.
- Butler, J. J., Jr., Whittemore, D. O., and Kluitenberg, G. J., 2005, A field investigation of ground-water consumption by phreatophytes in river valleys of Kansas: 50th Annual Midwest Ground Water Conference, Program with Abstracts, Illinois State Geological Survey, Open-file Series 2005–13, p. 18.
- Carr, T. R., with S. E. Nissen and R. Brownrigg, 3D visualization of geology, geophysics and petroleum engineering, keynote presentation for the 16<sup>th</sup> Oil Recovery Conference, Wichita, Kansas, April 6.
- Carr, T. R.—Kansas coalbed and shale gas, at Bundesanstalt fuer Geowissenschaften und Rohstoffe, Berlin, Germany, June 13.
- Carr, T. R.—Kansas coalbed and shale gas, at Brandenburg Landesamt fur Bergbau Geologie und Rohstoffe, Kleinmachnow, Germany, June 14.
- Carr, T. R.—Kansas coalbed and shale gas, at Institut fur Bohrtechnik und Fluidbergbau, Technische Universitat Bergakademie, Freiberg, Germany, June 15.
- Carr, T. R.—Enhanced oil recovery—A green market for CO<sub>2</sub> from ethanol production, with Martin Dubois and Alan Byrnes, at International Fuel Ethanol Workshop and Expo, Kansas City, Missouri, June 29.
- Carr, T. R.—Simplified Online Automated Reporting (SOLAR) for the Kansas oil and gas industry, at the Kansas Independent Oil and Gas Association (KIOGA) Annual Meeting, Wichita, Kansas, August 22.
- Carr, T. R.—Online oil and gas information for Kansas, at the Eastern Kansas Oil and Gas Association (EKOGA) Annual Meeting, Chanute, Kansas, September 16.
- Carr, T. R.—CO<sub>2</sub> sequestration, at Kansas Renewable Energy and Energy Efficiency 2005 Conference, Topeka, Kansas, September 21.
- Carr, T. R.—Energy and the Future, at West Virginia University, Department of Geology and Geography, Morgantown, West Virginia, October 6.
- Carr, T. R.—Linking carbon capture and storage to enhanced oil recovery, invited presentation at Weathering Climate Change—How Evolving Markets will Affect Your Business, an invitation-only corporate seminar for the clients of Ecology and Environment, Inc., [www.ene.com](http://www.ene.com), October 21.
- Carr, T. R.—Mississippian reservoirs in Kansas—New techniques—old targets, with S. Nissen and L. Qi, Kansas Geological Society Technical Meeting, Wichita, Kansas, November 3.
- Carr, T. R.—Ongoing and future carbon sequestration demonstration projects in the United States—A Kansas perspective, at 2nd Carbon Management Workshop and 11<sup>th</sup> Annual CO<sub>2</sub> Flooding Conference, Midland, Texas, December 3.
- Carr, T. R., Bartley, J. D., and Look, K., NatCarb carbon cyberinfrastructure—A federation of distributed resources and distributed multidisciplinary expertise, at NETL Invited Meeting,  
[http://hercules.kgs.ku.edu/kgs/oilgas/powerpoints/Netl\\_2005mtg.ppt](http://hercules.kgs.ku.edu/kgs/oilgas/powerpoints/Netl_2005mtg.ppt).



- Franseen, E. K.—“Spectral gamma ray scintillometer as a 1<sup>st</sup> cut tool for aggregate quality,” at Transportation Research Board Symposium and 56<sup>th</sup> Annual Highway Symposium, May 3–6, Wilmington, North Carolina.
- Franseen, E. K.—“Spectral gamma ray scintillometer as a 1<sup>st</sup> cut tool for aggregate quality,” at Kansas Aggregate Producers Association 38<sup>th</sup> Annual Joint Convention, January 13–15, Kansas City.
- Keller, J., Shea, J., Bauer, J., Butler, J. J., Jr., Kluitenberg, G. J., and Whittemore, D. O., 2005, A field investigation of ground-water consumption by phreatophytes in river valleys of Kansas: 50th Annual Midwest Ground Water Conference, Program with Abstracts, Illinois State Geological Survey, Open-file Series 2005–13, p. 19.
- Ludvigson, G. A., Tracking the footprints of ancient groundwater’s—Dinosaurian track beds as paleorecords of the critical zone, at Department of Geology, University of Kansas, Lawrence, Kansas, November 10.
- Ludvigson, G. A., Tracking the footprints of ancient groundwater’s—Dinosaurian track beds as paleorecords of the critical zone, at Indiana University–Purdue University Fort Wayne, Fort Wayne, Indiana, March 15.
- Ludvigson, G. A., What will global warming mean for Iowa? at Cornell College, Mount Vernon, Iowa, February 15.
- Macfarlane, P. A., Townsend, M. A., and Wilson, B. B., 2005, Kansas karst map and the Kansas karst on-line database (abs.): Water and the Future of Kansas Conference, Program with Abstracts, no. 22, p. 9.
- Macfarlane, P. A., Wilson, B. B., and Bohling, G. C., 2005, Practical saturated thickness of the Ogallala in two small areas of Southwest Kansas Groundwater Management District 3: Proceedings of the 14<sup>th</sup> Annual Kansas Hydrology Seminar, Topeka, Kansas.
- Mandel, R. D.—“Temporal and spatial patterns of Late Quaternary landscape evolution in the central Great Plains of North America,” at Baylor University Geoscience Lecture Series, Waco, Texas, April 29.
- Mandel, R. D.—“The search for pre-Clovis archaeological sites in the midcontinent—A geoarchaeological approach,” at Kansas Geological Society Lecture Series, Wichita, Kansas, May 4.
- Mandel, R. D.—Presentation at Department of Geosciences Lecture Series, University of Iowa, Iowa City, Iowa, September 2.
- Mandel, R. D.—“The peopling of the new world—A geoarchaeological perspective,” at University of Kansas Evolutionists, Lawrence, Kansas, December 13.
- Miller, R. D.—Presentation at Sixteenth Oil Recovery Conference, TORP-PTTC, April.
- Miller, R. D.—Presentation at Iowa State University Geology Seminar, Ames, Iowa, April.
- Miller, R. D.—Presentation at American Geophysical Union Joint Assembly, April.
- Miller, R. D., 2005, High-resolution seismic reflection for investigating unconventional energy resources in the Arctic: Iowa State University Geology Seminar, September 28.
- Miller, R. D., 2005, Progress report on time-lapse high-resolution 3-D seismic imaging to monitor a CO<sub>2</sub> flood in a thin carbonate reservoir in the Hall–Gurney field, Kansas: Department of Energy Offices, Tulsa, Oklahoma, September 21.
- Miller, R. D., 2005, Time-lapse high-resolution 3-D seismic imaging to monitor a CO<sub>2</sub> flood in a thin carbonate reservoir, Hall–Gurney field, Kansas: Sixteenth Oil Recovery Conference, Wichita, Kansas, April 6.
- Newell, K. D., General overview of low-BTU gas resources in Kansas, presented at the Petroleum Technology Transfer Conference on Unconventional Gas Resources, Wichita, Kansas, January 20.
- Newell, K. D., Carr, T. R., and Brown, W. M., 2005, Kansas coalbed and shale gas; what was, what is, and what may be, talk presented at the Tertiary Oil Recovery Conference, Wichita, Kansas, April 7.
- Newell, K. D., 2005, Coalbed methane in eastern Kansas, presented to Environmental Geology class, Emporia State University, Department of Earth Sciences, Emporia, Kansas, November 7.
- Sophocleous, M. A.—Invited keynote speaker at the combined Minnesota Ground Water Association and North-Central GSA-sponsored Symposium on Groundwater Sustainability presenting “Groundwater sustainability and its application in Kansas,” Minneapolis, Minnesota, May 19.
- Sophocleous, M. A.—Invited presentation on “Global water availability and demand,” Brownbag Lecture Series, Kansas Water Office, Topeka, Kansas, January 12.
- Sophocleous, M. A.—Invited presentation on “Water resources sustainability, groundwater recharge, and surface water/groundwater interactions,” Kansas Geological Survey, Advisory Council, Lawrence, Kansas, June 24.
- Suchy, D. R., Adkins-Heljeson, D., and Stewart, D. L., 2005, KGS geohydrologic data on the internet (abs.): 22<sup>nd</sup> Annual Water and the Future of Kansas Conference, Topeka, Kansas.
- Suchy, D. R.—Presentation on “KGS website, databases, and public well records,” at Kansas Department of Health and Environment geologic workshop on hydrocarbon storage and underground injection wells.
- Townsend, M. A., 2005, Geology and human health—a new partnership in the making: 22<sup>nd</sup> Annual Water and the Future of Kansas Conference, Political Science of Water: Integrating Science into Policy, March.
- White, S. W., Poster “Energy payback and lifecycle CO<sub>2</sub> emissions from three Midwestern utility-scale wind systems,” at WINDPOWER 2005 conference, Denver, Colorado, May 15–18.

- Whittemore, D. O., Butler, J. J., Jr., Healey, J. M., McKay, S. E., Aufman, M. S., and Brauchler, R., 2005, The impact of stream-aquifer interactions on ground-water quality in the alluvial aquifer of the middle Arkansas River: Proceedings 22<sup>nd</sup> Annual Water and Future of Kansas Conference, Topeka, Kansas, p. 37.
- Wilson, B. B.—Presented poster at Kansas Rural Water Association Conference.
- Wilson, B. B.—Presented poster at Water and the Future of Kansas Conference.
- Wilson, B. B.—Presentation at Agriculture and Rural Leadership Program.
- Wilson, B. B.—Presentation at Kansas Environmental Leadership Program.
- Wilson, B. B.—Presentation at Kansas GIS Policy Board.
- Wilson, B. B.—Presentation at South Central Kansas Water Conference.
- Wilson, B. B.—Presentation at Southwest Kansas GMD #3 Board Meeting.
- Wilson, B. B.—Developed map series of current saturated thickness, change in water levels and estimated usable lifetimes for the KWO display booth at the Garden City 3i Show.
- Young, D. P., Briggeman, S., and Townsend, M. A., 2005, The new and improved High Plains Aquifer Information Network (HIPLAIN) website (abs.): Water and the Future of Kansas Conference, Program With Abstracts, no. 22, p. 37.
- Xia, J.—High-frequency Rayleigh wave and its applications in near-surface geology: North China Institute of Water Conservancy and Hydroelectric Power, Zhengzhou, China, April 29, 2005.

## **Awards**

- Brady, L. L.—Distinguished Service Award, Energy Minerals Division, American Association of Petroleum Geologists, June.
- Buddemeier, R. W.—G. K. Gilbert Award, presented for excellence in geomorphological research by the Geomorphology Specialty Group of the Association of American Geographers (for Renwick paper).
- Carr, T. R.—Best Paper, International Freiberg Conference on IGCC & Xtl Technologies, Freiberg, Germany.
- Franseen, E. K.—Finalist for Best Paper Award in Journal of Sedimentary Research.
- Park, C. B.—Merriam International Research Award, Kansas Geological Survey.

## **Internal Service**

- Adkins-Heljeson, M.—Member of KU search committee for KGS Director, 2005–06.
- Adkins-Heljeson, M.—Member of KGS search committee for Public Outreach geology extension coordinator, 2005–06.
- Bartley, J.—Continuing to develop a grassroots GIS working group and an informatics working group with other Survey members.
- Bartley, J.—Sat on four search committees: Cartographic Services Manager—Dunham (co-chair); GIS Specialist—Saving (co-chair); Information Specialist—Hunsinger (member); and Information Specialist—Ash (member).
- Battles, E.—Created a series of custom maps for week long annual tour sponsored by the University of Kansas Chancellor's office. The maps were titled “Wheat State Whirlwind—A Tour of the Heartland for KU Faculty.”
- Butler, J.—Chair, KGS Geohydrology Scientist Search Committees.
- Butler, J.—Co-Chair, KGS Strategic Planning Committee (2004–05).
- Butler, J.—Member, KGS Evaluation System Review Committee (2003–).
- Carr, T.—Supervised Qi Lianshuang (Ph.D., 2005)—Poster based on dissertation research received 3rd best student poster award at 2004 AAPG Annual Meeting in Dallas, Texas; W. Mathew Brown (M.S., 2005)—Thesis contributed to 2004 poster that received President's Certificate for Excellence in Presentation for Best Poster AAPG Energy Mineral Division.
- Doveton, J.—KU courses taught: C&PE 940, Data Analysis in Engineering and Natural Sciences; GEOL 536, Log Analysis of Subsurface Geology; GEOL 391, TORIS database analysis (Special Studies Geology); C&PE 825, Wireline petrofacies analysis (Graduate Problem); GEOL791, Petroleum Log Analysis (Advanced Topics).
- Franseen, E.—Member of Management Team, KGS, 2005–present.
- Franseen, E.—Member of KGS Promotion and Review Committee.
- Franseen, E.—KGS representative to Kansas Geologic Mapping Advisory Committee, 2005–present.
- Franseen, E.—Member of KGS Research Advisory Group, 2005–2008.

Franseen, E.—Member of KU search committee for KGS Director, 2005–2006.  
 Franseen, E.—Supervised KU graduate student thesis for Juli Emry.  
 Mandel, R.—Member of KGS search committee for hiring Field Research Assistant in Exploration Services.  
 Newell, D.—Merriam International Travel Awards Committee (Member).  
 Newell, D.—Search Committee for Analytical Chemist (Member).  
 Newell, D.—Search Committee for student petrophysical assistant (Member).  
 Park, C.—Taught Symposium on the Application of Geophysics to Engineering and Environmental Problems at KGS, January 13–14.  
 Sorensen, J.—Member, Search Committee, Hydrogeologist, Geohydrology Section, 2005–2006.

## **External Service**

Adkins–Heljeson, M.—Member of finance committee, Association of Earth Science Editors.  
 Allison, M. L.—American Association of Petroleum Geologists, Annual Meeting Convenor, “Sedimentation on Mars,” June 20, Calgary, Alberta.  
 Bartley, J.—Started the Geoinformatics Network, a partnership of geoinformatics activities with KGS staff Nelson, Walker, and Buddemeier.  
 Battles, E.—Served on Kansas Association of Mappers (KAM) Executive Board.  
 Battles, E.—Moderated several sessions at the KAM 2005 conference.  
 Battles, E.—Served as Secretary for the Kansas Association of Mappers (KAM) Executive Board.  
 Battles, E.—Created several custom 1:10,000-scale tile maps of the Kansas River for the Kansas Water Office.  
 Brady, L.—Co-Leader, field trip for the 29<sup>th</sup> Forum of Coal Geologists of the Western Interior Coal Basin. Trip to the Phoenix Coal Company Garland mine in southeast Bourbon County, and to the coalbed methane operations of Dart Cherokee Basin Operating Co. LLC. in Montgomery County, Kansas, May 25.  
 Butler, J.—Chair (2004–06), Groundwater Technical Committee, American Geophysical Union.  
 Butler, J.—Associate Editor, *Journal of Hydrology* (2000–05).  
 Butler, J.—Panelist, AAAS Research Competitiveness Service, Panel for review of New Mexico NSF EPSCoR Program (2004, 2006).  
 Butler, J.—National Science Foundation, Water Cycle Proposal Panel, November.  
 Butler, J.—Promotion and Tenure Evaluator, Department of Geology and Geological Engineering, University of Mississippi.  
 Butler, J.—Presentation on “Beyond Theis and Hantush—New Advances in Aquifer and Aquitard Characterization,” Fall Meeting of the American Geophysical Union, San Francisco, California, December.  
 Carr, T.—Member and co-chair task force formed by Kansas Statute HR 6024 to evaluate improvements to the existing oil and gas royalty payment check stub law (2005–2007).  
 Carr, T.—Member, Kansas Energy Council (2005–07).  
 Carr, T.—Testimony before the Kansas Senate Utilities and House Environment committees (March 11).  
 Doveton, J.—NExT Short Course on Basic Statistics for Petrophysicists, November 28–29; NExT Short Course on “Basic Log Analysis of Fluid Volumetrics and Productivity,” NExT Short Course on “Permeability Estimation from Logs,” November 30–December 2, Tulsa, Oklahoma.  
 Doveton, J.—PTTC Workshop “The Crash Course on Log Analysis—An Excel Spreadsheet Workshop,” October 6.  
 Doveton, J.—PTTC Short Course on “Reading the Rocks from Wireline Logs,” April 27.  
 Doveton, J.—Midland College, “The Crash Course in Log Analysis—An Excel Spreadsheet Workshop,” February 24.  
 Doveton, J.—Tulsa Geological Society, “Reading the Rocks from Wireline Logs,” March 10, Tulsa, Oklahoma.  
 Doveton, J.—EREX Short Course on “Geological/ Petrophysical Log Analysis,” April 17–21, Cairo and El Sokhna, Egypt.  
 Doveton, J.—Indonesian Petroleum Association, “Reservoir Petrophysical Log Analysis,” May 30–June 3, Yogyakarta, Indonesia.  
 Doveton, J.—Southern Midcontinent PTTC Workshop, “The Crash Course in Log Analysis—An Excel Spreadsheet Workshop,” September 21, Norman, Oklahoma.  
 Franseen, E.—Co-instructor for AAPG Education Program “Controls on Porosity Types and Distribution in Carbonate Reservoirs,” Almeria, Spain.  
 Franseen, E.—External reviewer for promotion consideration of Dr. Roger Young to Full Professor, University of Oklahoma, Norman, Oklahoma.

Ludvigson, G.—Session Chair, Paleoclimatology/Paleoceanography I; Annual meeting of the Geological Society of America, Salt Lake City, Utah.

Ludvigson, G.—Theme Session on “Developing Approaches to Terrestrial Paleoclimatology,” North-Central Section meeting, Geological Society of America, Minneapolis, Minnesota, May 19–20.

Macfarlane, A.—Inquiry-based Ground-water Science Instructional Materials and Curricula, 2005 Annual Meeting of the Geological Society of America, Salt Lake City, Utah.

Miller, R.—SEG, Special Issue Editor, *The Leading Edge*, May 2005 (v. 24, no. 5), carbonates.

Miller, R.—Highway Geophysics Steering Committee, 2005–present.

Miller, R.—U.S./Canada CEA Dam Safety Advisory Board, 2005–07.

Miller, R.—DOT Geophysics Executive/Technical Committee, 2005–2006.

Miller, R.—Geophysical Society of Kansas, Editor, 2005–present.

Nelson, K.—Member of TAC Transportation Data Committee, 2005–present.

Nelson, K.—Member of TAC Imagery & Elevation Data Committee, 2005–present.

Newell, D.—Energy Minerals Division Treasurer, American Association of Petroleum Geologists, 2005–07.

Park, C.—Taught Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP), Atlanta, Georgia, April 3–7.

Sorensen, J.—Member, Geoscience Information Society, Distinguished Service Award Committee, 2005–2008.

Suchy, D.—Helped to man the KGS booth at the Kansas State Historical Society’s Kansas Day in Topeka, Kansas.

Townsend, M.—Led workshop on “Inquiry-Based Ground-water Science Instructional Materials and Curricula”, 2005 Annual Meeting of the Geological Society of America, Salt Lake City, Utah.

Watney, L.—Pfeffer Log Analysis and Web Tools Workshop, Wichita, KS, March 30.

Wilson, B.—Worked with the GMD #3 Board in developing protocol for aquifer subunit delineation.

Wilson, B.—Assisted with development of water budget for local township irrigation coalition and GMD #4.

## 2004

### Refereed Publications

Buddemeier, R. W., 2004, Uncertain science, uncertain world: *PALAIOS*, v. 19, no. 2, p. 188–189.

Buddemeier, R. W., Baker, A. C., Fautin, D. G., and Jacobs, J. R., 2004, The adaptive hypothesis of bleaching; *in*, Coral Health and Disease, E. Rosenberg and Y. Loya, eds.: Berlin, Springer, p. 427–444.

Buddemeier, R. W., and Gattuso, J.-P., 2004, Les coraux hissent le drapeau blanc: *Les Dossiers de la Recherche*, no. 17, p. 62–67.

Buddemeier, R. W., Kleypas, J. A., and Aronson, R. B., 2004, Coral reefs & global climate change—Potential contributions of climate change to the stresses on coral reef ecosystems: Pew Center on Global Climate Change, Arlington, Virginia, 42 p.

Butler, J. J., Jr., and Zhan, X., 2004, Hydraulic tests in highly permeable aquifers: *Water Resources Research*, v. 40, W12402.

Cain, S., III, Davis, G. A., Loheide, S. P., II, and Butler, J. J., Jr., 2004, Noise in pressure transducer readings produced by variations in solar radiation: *Ground Water*, v. 42, no. 6, p. 939–944.

Carr, T. R., Newell, K. D., Johnson, T. A., Brown, W. M., and Lange, J. P., 2004, Coalbed-methane development in Kansas; *in*, Unconventional Energy Resources in the Southern Midcontinent, 2004 Symposium, Brian J. Cardott, ed.: Oklahoma Geological Survey, Circular 110, p. 63–65.

Cha, H. R., Buddemeier, R. W., Fautin, D. G., and Sandhei, P., 2004, Distribution of sea anemones (Cnidaria, Actiniaria) in Korea analyzed by environmental clustering: *Hydrobiologia*, v. 530, special issue , p. 497–502.

Chen, C., Liu, J., Xia, J., Chen, J., and Lin, W., 2004, Detection of potential leak sites in embankments using surface-wave method and electrical method: Technical Program with Biographies, Society of Exploration Geophysicists, 74th Annual Meeting, Denver, Colorado, p. 1,377–1,380.

Chen, C., Liu, J., Xu, S., and Xia, J., 2004, Geophysical techniques in detection to river embankments, a case study—To locate sites of potential leaks using surface-wave and electrical methods; *in*, Progress in Environmental and Engineering Geophysics, C. Chen and J. Xia, eds.: Proceedings of the 2004 International Conference on Environmental and Engineering Geophysics (ICEEG), June 6–9, Wuhan, China; Science Press USA Inc., p. 465–469.

- Chen, C., and Xia, J., eds., 2004, Progress in environmental and engineering geophysics: Proceedings of the 2004 International Conference on Environmental and Engineering Geophysics (ICEEG), June 6–9, Wuhan, China; Science Press USA Inc., 614 p.
- Chen, C., Xia, J., Xia, S., Laflen, D., and William, S., 2004, Applications of high-resolution magnetic method and gradient method in locating abandoned brine wells in Hutchinson, Kansas, USA: Chinese Journal of Engineering Geophysics, v. 1, no. 1, p. 17–25.
- Cheng, S., Tian, G., Xia, J., He, H., and Shi, Z., 2004, Investigation of the low-depression velocity layer in desert area by multichannel analysis of surface-wave method; *in*, Progress in Environmental and Engineering Geophysics, C. Chen and J. Xia, eds.: Proceedings of the 2004 International Conference on Environmental and Engineering Geophysics (ICEEG), June 6–9, Wuhan, China; Science Press USA Inc., p. 166–171.
- Dillett, P., Goldstein, R. H., and Franseen, E. K., 2004, Paleotopographic and sea-level controls on the sequence stratigraphic character of a heterozoan carbonate succession—Pliocene Carboneras basin, southeast Spain: SEPM Carbonate Research Meeting, AAPG Annual Convention, Dallas, Texas.
- Doveton, J. H., 2004, Geological log interpretation: SEPM Short Course 29, 2nd Edition, CD.
- Doveton, J. H., and Merriam, D. F., 2004, Borehole petrophysical chemostratigraphy of Pennsylvanian black shales in the Kansas subsurface: Chemical Geology, v. 206, issues 3–4, p. 249–258.
- Enos, P., Franseen, E. K., Goldstein, R. H., Gonzalez, L., and Rogers, J., 2004, Carbonates—Highlights in the earth sciences: Geotimes, v. 49, p. 27 (expanded article at [http://www.agiweb.org/geotimes/current/high\\_carbonates.html](http://www.agiweb.org/geotimes/current/high_carbonates.html)).
- Fautin, D. G., and Buddemeier, R. W., 2004, Adaptive bleaching—a general phenomenon: Hydrobiologia, v. 530, Special Issue, p. 459–467.
- Feazel, C. T., Byrnes, A. P., Honefinger, J. W., Leibrecht, R. J., Loucks, R. G., McCants, S., and Saller, A. H., 2004, Carbonate reservoir characterization and simulation—From facies to flow units; report from the March Hedberg Research Symposium: American Association of Petroleum Geologists, Bulletin, v. 88, no. 11, p. 1,467–1470.
- Franseen, E. K., Byrnes, A. P., Cansler, J., Steinhauft, D. M., and Carr, T. R., 2004, The geology of Kansas—Arbuckle Group; *in*, Current Research in Earth Sciences: Kansas Geological Survey, Bulletin 250, part 2, 43 p., <http://www.kgs.ku.edu/Current/2004/franseen/franseen1.html>.
- Gerhard, L. C., 2004, Climate change, conflict of observational science, theory, and politics: American Association of Petroleum Geologists, Bulletin, v. 88, no. 9, p. 1,211–1,220.
- Gerhard, L. C., 2004, A new look at an old petroleum province; *in*, Current Research in Earth Sciences: Kansas Geological Survey, Bulletin, no. 250, pt. 1, <http://www.kgs.ku.edu/Current/2004/Gerhard/index.html>.
- Gosselin, D. C., Harvey, F. E., Frost, C., Stotler, R., and Macfarlane, P. A., 2004, Strontium isotope geochemistry of groundwater in the central part of the Dakota (Great Plains) aquifer, USA: Applied Geochemistry, v. 19, no. 3, p. 359–377.
- Gochioco, L. M., and Miller, R. D., 2004, Introduction to this special section—Near-surface problems and solutions: The Leading Edge, v. 23, no. 7, p. 656–657.
- Hoard, R. J., Banks, W. E., Mandel, R. D., Finnegan, M., and Epperson, J. E., 2004, A Middle Archaic burial from east-central Kansas: American Antiquity, v. 69, p. 717–739.
- Ivanov, J., and Durrant, S., 2004, High-resolution seismic imaging of catastrophic salt dissolution sinkhole in central Kansas: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2004), Colorado Springs, Colorado, February 22–26, Paper KAR02, p. 1,099–1,106.
- Ivanov, J., and Miller, R. D., 2004, Semi-automatic picking of first arrivals through cross correlation using spline interpolation applied to near-surface seismic surveys: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2004), Colorado Springs, Colorado, February 22–26, Paper SEIS01, p. 1,420–1,425.
- Ivanov, J., Miller, R. D., Ballard, R. F., Dunbar, J. B., and Stefanov, J., 2004, Interrogating levees using seismic methods in southern Texas [exp. abs.]: Society of Exploration Geophysicists, Denver, Colorado, October 10–15, p. 1,413–1,416.
- Lambrecht, J. L., Miller, R. D., and Rademacker, T. R., 2004, Advantages and disadvantages of pre-correlation, pre-vertical stack processing on near-surface, high resolution vibroseis data [exp. abs.]: Society of Exploration Geophysicists, Denver, Colorado, October 10–15, p. 1,425–1,428.
- Liu, J., Xia, J., Lou, Y., Li, X., and Xu, S., 2004, Extracting transient Rayleigh wave and its application in detecting quality of high-grade road; *in*, Progress in Environmental and Engineering Geophysics, C. Chen and J. Xia, eds.: Proceedings of the 2004 International Conference on Environmental and Engineering Geophysics (ICEEG), June 6–9, Wuhan, China; Science Press USA Inc., p. 122–130.

- Macpherson, G. L., and Sophocleous, M. A., 2004, Fast groundwater mixing in an unconfined alluvial aquifer—The Konza Prairie LTER site, northeastern Kansas: *Journal of Hydrology*, v. 286, no. 1–4, p. 271–299.
- Mandel, R. D., Hofman, J. L., Holen, S., and Blackmar, J. M., 2004, Buried paleoindian landscapes and sites on the High Plains of northwestern Kansas; *in*, *Field Trips in the Southern Rocky Mountains, USA*, E. P. Nelson, ed.: Geological Society of America, Field Guide 5, p. 69–88.
- Miller, R. D., Ivanov, J., Hartung, S., and Block, L., 2004, Seismic investigation of a sinkhole on Clearwater Dam: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2004), Colorado Springs, Colorado, February 22–26, Paper KAR01, p. 1,082–1,098.
- Miller, R. D., Rademacker, T. R., and Lambrecht, J. L., 2004, Field test of two high frequency vibrators with two high frequency servovalves at two sites in Kansas with near-surface emphasis [exp. abs.]: Society of Exploration Geophysicists, Denver, Colorado, October 10–15, p. 1,421–1,424.
- Miller, R. D., Raef, A. E., Byrnes, A. P., and Harrison, W. E., 2004, Project facts—4-D high-resolution seismic reflection monitoring of miscible CO<sub>2</sub> injection into a carbonate reservoir; *in*, DOE Fact Sheet CO<sub>2</sub> EOR technology—Technologies for tomorrow’s E&P paradigms: U.S. Department of Energy, Office of Fossil Energy, National Energy Technology Laboratory, Strategic Center for Natural Gas and Oil, 2 p.
- Miller, R. D., Raef, A. E., Byrnes, A. P., Lambrecht, J. L., and Harrison, W. E., 2004, 4-D high-resolution seismic reflection monitoring of miscible CO<sub>2</sub> injected into a carbonate reservoir in the Hall–Gurney field, Russell County, Kansas [exp. abs.]: Society of Exploration Geophysicists, Denver, Colorado, October 10–15, p. 2,259–2,262.
- Nissen, S. E., Watney, W. L., and Xia, J., 2004, High-resolution seismic detection of shallow natural gas beneath Hutchinson, Kansas: *Environmental Geosciences*, v. 11, no. 3, 129–142.
- Ohlmacher, G. C., 2004, Landslide-inventory map of the Potter and Oak Mills 7.5-minute quadrangles Jefferson, Leavenworth, and Atchison counties, Kansas: Kansas Geological Survey, Map M–113A, 1:36,000 scale.
- Ohlmacher, G. C., 2004, Landslide-inventory map of the Easton SW and Easton 7.5-minute quadrangles Jefferson and Leavenworth counties, Kansas: Kansas Geological Survey, Map M–115A, 1:36,000 scale.
- Ohlmacher, G. C., and Davis, J. C., 2004, Landslide-hazard map of the Potter and Oak Mills 7.5-minute quadrangles Jefferson, Leavenworth, and Atchison counties, Kansas: Kansas Geological Survey, Map M–113B, 1:36,000 scale.
- Ohlmacher, G. C., and Davis, J. C., 2004, Landslide-hazard map of the Easton SW and Easton 7.5-minute quadrangles Jefferson and Leavenworth counties, Kansas: Kansas Geological Survey, Map M–115B, 1:36,000 scale.
- Olmacher, G. C., McCauley, J. R., and Davis, J. C., 2004, Geologic map delineates landslide hazards; *in*, *Meeting Challenges with Geologic Maps*, W. A. Thomas, ed.: American Geological Institute, Environmental Awareness Series, v. 7, p. 34–35.
- Olea, R. A., 2004, CORRELATOR 5.2, a program for interactive lithostratigraphic correlation of wireline logs: *Computers and Geosciences*, v. 30, no. 6, p. 561–567.
- Park, C. B., 2004, Multichannel analysis of surface waves (MASW)—an overview: *Journal of Korean Geophysical Society (KGS)*, Seoul, Korea.
- Park, C. B., and Miller, R. D., 2004, MASW for quantifying change in shear wave velocity after deep dynamic compaction at a soil site: *Journal of Korean Geophysical Society*, Seoul, Korea.
- Park, C. B., and Miller, R. D., 2004, Multichannel analysis of passive surface waves— modeling and processing schemes: *Proceedings of the GeoFrontiers Conference*, Austin, Texas, January 23–26.
- Park, C., Miller, R., Laflen, D., Cabrillo, N., Ivanov, J., Bennett, B., and Huggins, R., 2004, Imaging dispersion curves of passive surface waves [exp. abs.]: Society of Exploration Geophysicists, Denver, Colorado, October 10–15, p. 1,357–1,360.
- Park, C. B., Miller, R. D., Xia, J., and Ivanov, J., 2004, MASW—An easy seismic method to map shear-velocity (Vs) of the ground (invited presentation): *Korean Society of Engineering Geology (KSEG)*, Kangwon National University, Chuncheon, Korea, April 30–May 1, p. 1–9.
- Park, C. B., Ulriksen, P., and Miller, R. D., 2004, Multimodal approach to seismic pavement testing: *Journal of Geotechnical and Geoenvironmental Engineering*, v. 130, p. 636–645.
- Rademacker, T. R., Miller, R. D., Lambrecht, J. L., Nichols, C., and Beech, J., 2004, Using high resolution seismic reflection to study the convergence of the Humboldt Fault Zone and the Nemaha Ridge near Bellevue, Nebraska: Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2004), Colorado Springs, Colorado, February 22–26, Paper REF03, p. 1,397–1,402.
- Raef, A. E., Miller, R. D., Byrnes, A. P., and Harrison, W. E., 2004, 4D seismic monitoring of the miscible CO<sub>2</sub> flood of Hall–Gurney field, Kansas: *The Leading Edge*, v. 23, no. 11, p. 1,171–1,176.

- Renwick, W. H., Smith, S. V., Sleezer, R. O., and Buddemeier, R. W., 2004, Comment on "Managing soil carbon" (II): *Science*, v. 305, issue 5690.
- Ryden, N., Park, C. B., and Ulriksen, P., 2004, A framework for inversion of wavefield spectra in seismic non-destructive testing of pavements: *Proceedings of the 2<sup>nd</sup> International Conference on Site Characterization (ISC-2)*, Porto, Portugal, September 19–22.
- Schulmeister, M. K., Butler, J. J., Jr., Franseen, E. K., Wysocki, D. A., and Doolittle, J. A., 2004, High-resolution stratigraphic characterization of unconsolidated deposits using direct-push electrical conductivity logging—A floodplain margin example; *in*, *Aquifer Characterization*, J. S. Bridge and D.W. Hyndman, eds.: SEPM, SEPM Concepts in Hydrogeology and Environmental Geology, v. 2, p. 67–78.
- Schulmeister, M. K., Healey, J. M., Butler, J. J., Jr., and McCall, G. W., 2004, Direct-push geochemical profiling for assessment of inorganic chemical heterogeneity in aquifers: *Journal of Contaminant Hydrology*, v. 69, no. 3–4, p. 215–232.
- Shi, Z., Tian, G., Dong, S., Xia, J., and He, H., 2004, Study on geophone coupling and attenuating compensatory of low-depression velocity layer in desert area; *in*, *Progress in Environmental and Engineering Geophysics*, C. Chen and J. Xia, eds.: *Proceedings of the 2004 International Conference on Environmental and Engineering Geophysics (ICEEG)*, June 6–9, Wuhan, China; Science Press USA Inc., p. 131–134.
- Sophocleous, M. A., 2004, Global and regional water availability and demand—Prospects for the future: *Natural Resources Research*, v. 13, no. 2, p. 61–75.
- Sophocleous, M. A., 2004, Groundwater recharge and the water budgets of the Kansas High Plains and related aquifers: *Kansas Geological Survey, Bulletin 249*, 102 p.; <http://www.kgs.ku.edu/Hydro/Publications/2004/Bull249/summary.html>.
- Sophocleous, M. A., 2004, Climate change—Why should water professionals care?: *Ground Water*, v. 42, no. 5, p. 637.
- Sophocleous, M. A., and Devlin, J. F., 2004, Discussion of “The water budget myth revisited—Why hydrogeologists model,” by J. D. Bredehoeft: *Ground Water*, v. 42, no. 4, p. 618.
- Tsou, M., and Zhan, X., 2004, Estimation of runoff and sediment yield in the Redrock Creek watershed using AnnAGNPS and GIS: *Journal of Environmental Sciences*, v. 16, no. 5, p. 865–867.
- Ufnar, D. F., Gonzalez, L. A., Ludvigson, G. A., Brenner, R. L., and Witzke, B. J., 2004, Diagenetic overprinting of the sphaerosiderite palaeoclimate proxy, are records of pedogenic groundwater delta (super 18) O values preserved?: *Sedimentology*, v. 51, no. 1, p. 127–144.
- Webb, J. C., Cluff, S. G., Murphy, C. M., and Byrnes, A. P., 2004, Petrology and petrophysics of the Lance Formation (Upper Cretaceous), American Hunter Old Road Unit no. 1, Sublette County, Wyoming; *in*, *Jonah Field—Case Study of a Tight Gas Fluvial Reservoir*, J. W. Robinson and K. W. Shanley, eds.: *American Association of Petroleum Geologists, Studies in Geology*, no. 52, p. 183–214.
- Xia, J., Chen, C., Li, P. H., and Lewis, M. J., 2004, Delineation of a collapse feature in a noisy environment using a multichannel surface wave technique: *Geotechnique*, v. 54, no. 1, p. 17–27.
- Xia, J., Chen, C., Xia, S., Laflen, D., and Williams, S. L., 2004, Using high-resolution magnetic method and gradient method to locate abandoned brine wells in Hutchinson, Kansas: *Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP) 2004 Annual Meeting of EEGS*, February 22–26, Colorado Springs, Colorado, p. 1,350–1,367, also available on CD.
- Xia, J., Franseen, E. K., Miller, R. D., and Weis, T. V., 2004, Application of deterministic deconvolution of ground-penetrating radar data in a study of carbonate strata: *Journal of Applied Geophysics*, v. 56, no. 3, p. 213–229.
- Xia, J., Miller, R. D., Chen, C., and Ivanov, J., 2004, Increasing horizontal resolution of geophysical models by generalized inversion [exp. abs.]: *Society of Exploration Geophysicists*, Denver, Colorado, October 10–15, p. 1,437–1,440.
- Xia, J., Miller, R. D., Park, C. B., Ivanov, J., Tian, G., and Chen, C., 2004, Utilization of high-frequency Rayleigh waves in near-surface geophysics: *The Leading Edge*, v. 23, no. 8, p. 753–759.
- Xia, J., Miller, R. D., Park, C. B., Ivanov, J., Tian, G., and Chen, C., 2004, High-frequency Rayleigh wave and its applications in near-surface geophysics (keynote presentation); *in*, *Progress in Environmental and Engineering Geophysics*, C. Chen and J. Xia, eds.: *Proceedings of the 2004 International Conference on Environmental and Engineering Geophysics (ICEEG)*, June 6–9, Wuhan, China; Science Press USA Inc., p. 30–38.
- Xia, J., and Williams, S. L., 2004, High-resolution magnetic survey used in searching for buried brine wells in Hutchinson, Kansas; *in*, *Evaporate Karst and Engineering and Environmental Problems in the United States*, K. S. Johnson and J. T. Neal, eds.: *Oklahoma Geological Survey, Circular 109*, p. 169–175.
- Xu, Y., Yue, R., and Xia, J., 2004, Understanding of near-field effect for CSAMT in electric azimuthally anisotropic half-space; *in*, *Progress in Environmental and Engineering Geophysics*, C. Chen and J. Xia, eds.: *Proceedings of*

- the 2004 International Conference on Environmental and Engineering Geophysics (ICEEG), June 6–9, Wuhan, China; Science Press USA Inc., p. 306–309.
- Xu, Y., Yue, R., and Xia, J., 2004, Understanding of near-field effect for CSAMT in electric azimuthally anisotropic half-space: Society of Exploration Geophysicists, Technical Program with Biographies, 74th Annual Meeting, Denver, Colorado, p. 676–679.
- Zhan, X., and Huang, M., 2004, ArcCN-runoff—An ArcGIS tool for generating curve number and runoff maps: *Environmental Model & Software*, v. 19, no. 10, p. 875–879.
- Zhang, S. X., Chan, L. S., and Xia, J., 2004, The selection of field acquisition parameters for dispersion images from multichannel surface wave data: *Pure and Applied Geophysics*, v. 161, p. 185–201.
- Zhang, S., Xu, Y., and Xia, J., 2004, Correlative weighted stacking for seismic data in the wavelet domain; *in*, *Progress in Environmental and Engineering Geophysics*, C. Chen and J. Xia, eds.: Proceedings of the 2004 International Conference on Environmental and Engineering Geophysics (ICEEG), June 6–9, Wuhan, China; Science Press USA Inc., p. 161–165.
- Zhang, S., Xu, Y., and Xia, J., 2004, High-order correlative weighted stacking for seismic data in wavelet domain: Society of Exploration Geophysicists, Technical Program with Biographies, 74th Annual Meeting, Denver, Colorado, p. 1,433–1,436.

### **Nonrefereed/Unpublished Papers**

- Adkins–Heljeson, D., Brady, L. L., Carr, T. A., and Penka, J. P., 2004, Summary of Kansas coalbed methane wells and production history: Kansas Geological Survey, Open-file Report 2004–37; [http://www.kgs.ku.edu/PRS/publication/2004/OFR04\\_37/index.html](http://www.kgs.ku.edu/PRS/publication/2004/OFR04_37/index.html).
- Allison, M. L., Baru, C., Jordan, T., and Crangle, R., 2004, Geoinformatics—Building cyberinfrastructure for the Earth (A report of the May 14–15, 2003 workshop at the San Diego Supercomputer Center, submitted to the National Science Foundation): Kansas Geological Survey, Open-file Report 2004–48, 27 p.
- Bhattacharya, S., Dubois, M. K., and Byrnes, A. P., 2004, Single well characterization and simulation—Council Grove reservoir system: Kansas Geological Survey, Open-file Report 2004–66, 31 p.; [http://www.kgs.ku.edu/PRS/publication/2004/OFR04\\_66/index.html](http://www.kgs.ku.edu/PRS/publication/2004/OFR04_66/index.html).
- Bhattacharya, S., Dubois, M. K., and Byrnes, A. P., 2004, Multi well characterization and simulation—Council Grove reservoir systems: Kansas Geological Survey, Open-file Report 2004–67, 36 p.; [http://www.kgs.ku.edu/PRS/publication/2004/OFR04\\_67/index.html](http://www.kgs.ku.edu/PRS/publication/2004/OFR04_67/index.html).
- Bhattacharya, S., Nissen, S., Dubois, M. K., and Byrnes, A. P., 2004, Updating Judica field geomodel with 3D seismic data—Implications for infill horizontal drilling: Kansas Geological Survey, Open-file Report 2004–65; [http://www.kgs.ku.edu/PRS/publication/2004/OFR04\\_65/](http://www.kgs.ku.edu/PRS/publication/2004/OFR04_65/).
- Bohling, G. C., 2004, User’s guide to CHRONOS age-depth plot version 1.00: Kansas Geological Survey, Open-file Report 2004–55, 10 p.
- Bohling, G. C., and Wilson, B. B., 2004, Statistical and geostatistical analysis of the Kansas High Plains water table elevations, 2004 measurement campaign: Kansas Geological Survey, Open-file Report 2004–57, 39 p.; [http://www.kgs.ku.edu/Magellan/WaterLevels/CD/Reports/OFR04\\_57/rep00.htm](http://www.kgs.ku.edu/Magellan/WaterLevels/CD/Reports/OFR04_57/rep00.htm).
- Brady, L. L., and Newell, K. D., 2004, Kansas coal and coalbed methane—An overview; *in*, 1st Midcontinent Coalbed Methane Symposium Field Trip (Overview of Coal and Coalbed Methane in the Cherokee Basin, Northeast Oklahoma), B. J. Cardott, L. L. Brady, and K. D. Newell, leaders: Kansas Geological Survey, Open-file Report 2004–49, p. 97–117.
- Brosius, L., Allison, M. L., and White, S., compilers, 2004, Kansas energy plan 2004, State Energy Resources Coordination Council: Kansas Geological Survey, Open-file Report 2004–1, 48 p.
- Brosius, L., White, S., and Allison, M. L., compilers, 2004, Kansas energy plan 2005, Kansas Energy Council: Kansas Geological Survey, Open-file Report 2004–59, 51 p.
- Buchanan, R., 2004, Review of Roadside Geology of Nebraska, by Harmon D. Maher, Jr., George F. Englemann, and Robert D. Shuster: *Great Plains Quarterly*, Spring, v. 14, no. 1, p. 143.
- Buddemeier, R. W., Sleezer, R. O., Egbert, S. L., and deNoyelles, F. J., 2004, Landscape-scale detection and characterization of small water bodies—A progress report: Kansas Geological Survey, Open-file Report 2004–43, 22 p.; [http://www.kgs.ku.edu/Hydro/Publications/2004/OFR04\\_43/index.html](http://www.kgs.ku.edu/Hydro/Publications/2004/OFR04_43/index.html).
- Butler, J. J., Jr., and Dietrich, P., 2004, New methods for high-resolution characterization of spatial variations in hydraulic conductivity: Proceedings of International Symposium on Hydrogeological Investigation and Remedial Technology, National Central University, Zhongli, Taiwan, p. 42–55.



- Butler, J. J., Jr., Whittemore, D. O., Zhan, X., and Healey, J. M., 2004, Analysis of two pumping tests at the O'Rourke Bridge site on the Arkansas River in Pawnee County, Kansas: Kansas Geological Survey, Open-file Report 2004-32, 58 p.
- Byrnes, A. P., 2004, Low-permeability core petrophysics and reservoir assessment: Denver Well Logging Society Short Course No. 107, 86 p.
- Cardott, B. J., Brady, L. L., and Newell, K. D., leaders, 2004, 1<sup>st</sup> Midcontinent Coalbed Methane Symposium, field trip—Overview of coal and coalbed methane in the Cherokee basin, northeast Oklahoma: Kansas Geological Survey, Open-file Report 2004-49, 117 p.
- Carr, T. R., 2004, NATional CARBon Sequestration Database and Geographic Information System (NATCARB); Former Title—Midcontinent Interactive Digital Carbon Atlas and Relational Database (MIDCARB), Annual Report: Department of Energy, Office of Scientific and Technical Information (OSTI), 63 p.; <http://www.osti.gov/servlets/purl/826358-rFWHOn/native>.
- Carr, T. R., 2004, Coalbed methane in Kansas—Testimony before the Kansas Senate Utilities Committee March 4, 2004: Kansas Geological Survey, Open-file Report 2004-9, 29 p.; <http://www.kgs.ku.edu/PRS/publication/ofr2004-9/Testimony.pdf>.
- Carr, T. R., 2004, Geologic sequestration in Kansas—Testimony before the Kansas House Environment Committee March 9, 2004: Kansas Geological Survey, Open-file Report 2004-10, 31p.; <http://www.kgs.ku.edu/PRS/publication/ofr2004-10/Testimony.pdf>.
- Carr, T. R., 2004, Calendar year 2003—Kansas oil and gas production—An examination of the importance of stripper production: Kansas Geological Survey, Open-file Report 2004-15, 4 p.; <http://www.kgs.ku.edu/PRS/publication/ofr2004-15/2003Kansas Oil and Gas Production.pdf>.
- Carr, T. R., 2004, Fiscal year 2004 Kansas oil & gas production by operator: Kansas Geological Survey, Open-file Report 2004-61, 52 p.; <http://www.kgs.ku.edu/PRS/publication/2004/ofr2004-61/index.html>.
- Carr, T. R., Bartley, J. D., Iqbal, A., Dooley, J. J., Dahowski, R. T., Cheng, D. S., Korose, C. P., Nelson, R., Biediger, B. V., Wells, J., 2004, Creating a distributed NATional CARBon Sequestration Database and Geographic Information System (NATCARB): Kansas Geological Survey, Open-file Report 2004-25.
- Carr, T. R., and Byrnes, A. P., 2004, Models for environmentally sound and economically viable carbon dioxide sequestration opportunities: Kansas Geological Survey, Open-file Report 2004-19; <http://www.kgs.ku.edu/PRS/publication/2004/AAPG/CO2/ofr2004-19.pdf>.
- Doveton, J. H., 2004, Applications of estimated formation water resistivities to brine stratigraphy in the Kansas subsurface: Kansas Geological Survey, Open-file Report 2004-63.
- Doveton, J. H., Watney, W. L., and Bohling, G. C., 2004, Theory and practice of a web-based intelligent agent in the location of pay zones on digital well log files: Kansas Geological Survey, Open-file Report 2004-28; <http://www.kgs.ku.edu/PRS/publication/2004/AAPG/Brine/>.
- Dubois, M. K., Bohling, G. C., and Chakrabarti, S., 2004, Comparison of rock facies classification using three statistically based classifiers: Kansas Geological Survey, Open-file Report 2004-64, 22 p.
- Franseen, E. K., and Goldstein, R. H., 2004, Build-and-fill sequences—Predictable patterns of creation and destruction of paleotopography in small-scale sequences: Kansas Geological Survey, Open-file Report 2004-16; <http://www.kgs.ku.edu/PRS/publication/2004/AAPG/Build-and-Fill/index.html>.
- Grisafe, D. A., 2004, The mineral industry of Kansas: U.S. Geological Survey, Minerals Yearbook 2002, v. 2 (area reports, domestic), p. 18.1–18.5.
- Hathaway, L. R., 2004, Kansas Geological Survey Analytical Services Laboratory water analyses: Kansas Geological Survey, Open-file Report 2004-02, 7 p.
- Healey, J. M., and Sellwood, S. M., 2004, The KGS direct-push hydrostratigraphic profiling toolkit: Kansas Geological Survey, Open-file Report 2004-44, 14 p.
- Laflen, D. R., and Miller, R. D., 2004, 2004 annual water level data collection report for Kansas: Kansas Geological Survey, Open-file Report 2004-6.
- Macfarlane, P. A., 2004, Summary of the field tests of the alpha version of the Plume Busters software: Kansas Geological Survey, Open-file Report 2004-27, 23 p.
- Macfarlane, P. A., Townsend, M. A., Bohling, G. C., and Case, S. B., 2004, A preliminary teacher's guide to Plume Busters: Kansas Geological Survey, Open-file Report 2004-60, 74 p.; [http://www.kgs.ku.edu/Hydro/Publications/2004/OFR04\\_60/index.html](http://www.kgs.ku.edu/Hydro/Publications/2004/OFR04_60/index.html).
- Macfarlane, P. A., Townsend, M. A., Bohling, G. C., Reber, A., and Case, S., 2004, The summer 2004 ground-water workshop for secondary teachers of earth and environmental science: Kansas Geological Survey, Open-file Report 2004-47.

- Mandel, R. D., compiler, 2004, 18<sup>th</sup> biennial meeting of the American Quaternary Association, guidebook for field trips, June 25, 28–39, 2004: Kansas Geological Survey, Open-file Report 2004–33, var. pag.
- Mandel, R. D., 2004, Geomorphology of the Johnson Farm Site; in, Final Report on the Mitigation of the Johnson Farm #5 Site (3MI128) on U.S. Highway 71, Texarkana to Louisiana State Line, Miller County, Arkansas, J. T. Penman, ed.: Prepared for U.S. Department of Transportation by Burns & McDonnell Engineering Co., Inc. Kansas City, Missouri, p. A-1–A-22.
- Mandel, R. D., 2004, Geomorphological investigations; in, Cultural Resources Inventory for a Flood Control Project, Augusta, Kansas, by H. A. Raab, P. J. Boden, and J. R. Rust: Report prepared for the U.S. Army Corps of Engineers by 4G Consulting, LLC, St. Paul, Minnesota, p. 7-1–7-34.
- Mckirahan, J., Goldstein, R. H., and Franseen, E. K., 2004, Evaluation of some geologic factors affecting the quality of limestone construction aggregate; *in*, Proceedings, R. Henthorne, ed: 55<sup>th</sup> Highway Geology Symposium, Kansas City, Missouri, p. 374–405.
- Miller, R. D., 2004, Seismic reflection survey—Health and Safety Plan, East Canyon Dam, Utah: Kansas Geological Survey, Open-file Report 2004–40.
- Miller, R. D., 2004, Seismic reflection survey—Health and Safety Plan, Trenton, New Jersey: Kansas Geological Survey, Open-file Report 2004–31.
- Miller, R. D., and Henthorne, R., 2004, High-resolution seismic reflection to identify areas with subsidence potential beneath U.S. 50 highway in eastern Reno County, Kansas: Proceedings of the 55th Highway Geology Symposium, September 8–10, Kansas City, Missouri, p. 29–48.
- Miller, R. D., Ivanov, J. M., Anderson, T. S., Park, C. B., Moran, M. L., and Ballard, R., 2004, Deployment and testing of wavefield imaging systems to detect underground facilities: Proceedings of the Military Sensing Symposia Specialty Group on Battlefield Acoustic and Seismic Sensing, August 23–26, Laurel, Maryland, published on CD.
- Miller, R. D., Rademacker, T. R., Laflen, D. R., Lambrecht, J. L., Anderson, J. M., and Brohammer, M. C., 2004, High-resolution seismic reflection to delineate structures at the northern extreme of the Nemaha Ridge/Humboldt fault in east-central Nebraska: Kansas Geological Survey, Open-file Report 2004–13.
- Miller, R. D., Raef, A. E., Byrnes, A. P., and Harrison, W. E., 2004, Progress report year 1—4-D high-resolution seismic reflection monitoring of miscible CO<sub>2</sub> injected into a carbonate reservoir: Kansas Geological Survey, Open-file Report 2004–45.
- Miller, R. D., Raef, A. E., Byrnes, A. P., and Harrison, W. E., 2004, Project facts—4-D high resolution seismic reflection monitoring of miscible CO<sub>2</sub> injection into a carbonate reservoir; *in*, DOE Fact Sheet CO<sub>2</sub> EOR Technology—Technologies for Tomorrow's E&P Paradigms: U.S. Department of Energy, Office of Fossil Energy, National Energy Technology Laboratory, Strategic Center for Natural Gas and Oil, 2 p.
- Newell, K. D., 2004, Analysis of Marmaton and Cherokee Group cuttings samples for gas content—Dart Cherokee Basin #Butler #A3–35 well (sec. 35, T. 33 S., R. 14 E.), Montgomery County, Kansas: Kansas Geological Survey, Open-file Report 2004–54, 23 p.
- Newell, K. D., 2004, Analysis of Marmaton and Cherokee Group cuttings samples for gas content —Dart Cherokee Basin #McDaniel #B1–20 well (sec. 20, T. 31 S., R. 16 E.), Montgomery County, Kansas: Kansas Geological Survey, Open-file Report 2004–69, 24 p.
- Newell, K. D., 2004, Analysis of Cherokee Group cuttings samples for gas content—Meritage KCM #6–32 Broyles well (sec. 6, T. 23 S., R. 22 E.), Linn County, Kansas: Kansas Geological Survey, Open-file Report 2004–52, 35 p.
- Newell, K. D., Carr, T. R., and Gagnon, G., 2004, Analysis of Pleasanton, Marmaton, and Cherokee Group core samples for gas content—Osborn Energy #1–22 Smith well (sec. 22, T. 44 N., R. 33 W.), Cass County, Missouri: Kansas Geological Survey, Open-file Report 2004–51, 51 p.
- Newell, K. D., and Grisafe, D., 2004, Density, ash content, and moisture content of selected eastern Kansas Pennsylvanian coal and shales: Kansas Geological Survey, Open-file Report 2004–42, 12 p.; [http://www.kgs.ku.edu/PRS/publication/2004/OFR04\\_42/index.html](http://www.kgs.ku.edu/PRS/publication/2004/OFR04_42/index.html).
- Newell, K. D., Johnson, T. A., Brown, W. M., Lange, J. P., and Carr, T. A., 2004, Geological and geochemical factors influencing the emerging gas play in the Cherokee and Forest City basins in eastern Kansas [abs.]: American Association of Petroleum Geologists, 2004 Annual Convention Abstracts, p. A205; Kansas Geological Survey, Open-file Report 2004–17; <http://www.kgs.ku.edu/PRS/publication/2004/AAPG/Coalbed/>.
- Newell, K. D. and Lange, J. P., 2004, Analysis of Cherokee Group cuttings samples for gas content—Gene M. Bailey #12–K Kimball well (sec. 19, T. 30 S., R. 16 E.), Wilson County, Kansas: Kansas Geological Survey, Open-file Report 2004–50, 17 p.

- Newell, K. D., Lange, J. P., and Johnson, T. A., 2004, Analysis of Marmaton and Cherokee Group coal samples for gas content—Layne Christensen #3–9 Scott well (S2 NE NW sec. 9, T. 33 S., R. 16 E.), Montgomery County, Kansas: Kansas Geological Survey, Open-file Report 2004–53, 58 p.
- Newell, K. D., Magnuson, L. M., and Gagnon, G., 2004, Analysis of Marmaton and Cherokee Group core samples for gas content—Osborn Energy #1–6 Rose Hill well (sec. 6, T. 16 S., R. 24 E.), Miami County, Kansas: Kansas Geological Survey, Open-file Report 2004–23, 29 p.
- Nissen, S. E., Marfurt, K. J., and Carr, T. R., 2004, Identifying subtle fracture trends in the Mississippian saline aquifer unit using new 3-D seismic attributes: Kansas Geological Survey, Open-file Report 2004–56; [http://www.kgs.ku.edu/PRS/publication/2004/2004\\_56/](http://www.kgs.ku.edu/PRS/publication/2004/2004_56/).
- Nissen, S. E., Watney, W. L., Bhattacharya, S., Byrnes, A. P., and Young, D., 2004, Geologic factors controlling natural gas distribution related to the January 2001 gas explosions in Hutchinson, Kansas: Kansas Geological Survey, Open-file Report 2004–21; [http://www.kgs.ku.edu/PRS/publication/2004/AAPG/NG\\_Migration/](http://www.kgs.ku.edu/PRS/publication/2004/AAPG/NG_Migration/).
- Park, C. B., and Miller, R. D., 2004, MASW to map shear-wave velocity of soil: Kansas Geological Survey, Open-file Report 2004–30.
- Sawin, R. S., and McCauley, J. R., 2004, Geologic map of the historic ranch headquarters and school house areas, Tallgrass Prairie National Preserve, Chase County, Kansas: Kansas Geological Survey, Open-file Report 2004–34, 9 p., 1 map.
- Sawin, R. S., Buchanan, R. C., and McCauley, J. R., eds., 2004, The Kansas Flint Hills—Energy, Prairie, and Preservation, 2004 Kansas Field Conference, Field Guide: Kansas Geological Survey, Open-file Report 2004–22, 50 p.
- Sellwood, S. M., Healey, J. M., Birk, S., and Butler, J. J., Jr., 2004, Supplementary color figures for “Direct-push hydrostratigraphic profiling—Coupling electrical logging and slug tests” in *Ground Water*, v. 43, no. 1: Kansas Geological Survey, Open-file Report 2004–12, 5 p.
- Sophocleous, M. A., Bardsley, W. E., Healey, J., and Engard, B., 2004, Can precipitation loading be detected at 300-meter depth or greater?: Kansas Geological Survey, Open-file Report 2004–46, 19 p.
- Walters, S. L., and Lacy, C. H. S., 2004, Determining properties of the Eclipsing Binary CV BOO: 205<sup>th</sup> Bi-Annual National Meeting, American Astronomical Society, p. 1,370.
- Watney, W. L., Bhattacharya, S., Byrnes, A., Doveton, J., Victorine, J., and Brownrigg, R., 2004, PTTC workshop—Practical Petroleum Reservoir Characterization and Modeling Using Free Web-Based Software Tools and Data, Lawrence, Kansas, November 16: Kansas Geological Survey; <http://www.kgs.ku.edu/Gemini/gemini-reports.html>.
- Watney, W. L., Doveton, J. H., Carr, T. R., Bohling, G. C., Victorine, J. R., Pakalapadi, J., Bhattacharya, S., Byrnes, A. P., Gagnon, G., Stalder, K. R., Moore, M., Dubois, M. K., Guy, W. J., and Look, K., 2004, Collaborative geo-engineering reservoir characterization and modeling on the web: Kansas Geological Survey, Open-file Report 2004–36.
- West, R. R., and Sawin, R. S., 2004, Field geology maps, Crawford County, Kansas (1:24,000 quadrangles—Asbury, Kirkwood, Mindenmines, and Pittsburg quadrangles): Kansas Geological Survey, Open-file Report 2004–14, 11 p., 4 maps.
- Whittemore, D. O., 2004, Specific conductance relationships for prairie preserve waters in the Flint Hills, Kansas: Kansas Geological Survey, Open-file Report 2004–3, 4 p.; [http://www.kgs.ku.edu/Hydro/Publications/2004/OFR04\\_03/index.html](http://www.kgs.ku.edu/Hydro/Publications/2004/OFR04_03/index.html).
- Whittemore, D. O., 2004, Geochemical identification of sources of salinity in ground waters of the High Plains aquifer west of the Johnson oil field in central McPherson County, Kansas: Kansas Geological Survey, Open-file Report 2004–4, 16 p.; [http://www.kgs.ku.edu/Hydro/Publications/2004/OFR04\\_04/index.html](http://www.kgs.ku.edu/Hydro/Publications/2004/OFR04_04/index.html).
- Whittemore, D. O., 2004, TMDL salt assessment and analysis—Chloride impairment in the Gar–Peace and Cow subbasins of the Lower Arkansas River basin: Kansas Geological Survey, Open-file Report 2004–5, 67 p.; [http://www.kgs.ku.edu/Hydro/Publications/2004/OFR04\\_05/index.html](http://www.kgs.ku.edu/Hydro/Publications/2004/OFR04_05/index.html).
- Whittemore, D. O., 2004, Geochemical identification of the saltwater source affecting surface and ground waters near the Washita River, Garvin County, Oklahoma: Kansas Geological Survey, Open-file Report 2004–58, 12 p.
- Whittemore, D. O., 2004, Geochemical identification of sources of salinity in ground waters of the High Plains aquifer south of McPherson, Kansas: Kansas Geological Survey, Open-file Report 2004–62, 21 p.
- Whittemore, D. O., Butler, J. J., Jr., Koelliker, J. K., Hoagland, K. D., and Sanford, W. D., 2004, Hydrologic observatory for the Republican River basin/High Plains aquifer—A barometer for global climate change: Kansas Geological Survey, Open-file Report 2004–68, 10 p.

- Wilson, B. B., and Li, D., 2004, Water right development in Kansas: Kansas Geological Survey, Open-file Report 2004-11; [http://hercules.kgs.ku.edu/geohydro/ofr/2004\\_11/ofr\\_2004\\_11.htm](http://hercules.kgs.ku.edu/geohydro/ofr/2004_11/ofr_2004_11.htm).
- Wilson, B. B., and Macfarlane, P. A., 2004, Maximum depth of completed freshwater wells drilled in selected eastern Kansas townships (based on water well completion records WWC5 database): Kansas Geological Survey, Open-file Report 2004-8; [http://hercules.kgs.ku.edu/geohydro/ofr/2004\\_8/ofr\\_2004\\_8.htm](http://hercules.kgs.ku.edu/geohydro/ofr/2004_8/ofr_2004_8.htm).
- Woods, J. J., and Sophocleous, M. A., 2004, January 2002 Kansas water levels and data related to water-level changes: Kansas Geological Survey, Technical Series 19, 92 p.; <http://www.kgs.ku.edu/Hydro/Levels/2002/index.html>.
- Xia, J., 2004, High-resolution magnetic and gradient survey at Big Chief Mobile Home Park in Hutchinson, Kansas: Kansas Geological Survey, Open-file Report 2004-20, 104 p.
- Xia, J., Franseen, E. K., Miller, R. D., and Weis, T. V., 2004, Application of deterministic deconvolution of ground-penetrating radar data in a study of carbonate strata: Kansas Geological Survey, Open-file Report 2004-41, 32 p.

## **Computer Software and Database Development**

- Bartley, J.—Field Mapping Geodatabase Model (2004). Working with Greg Ohlmacher to continue to develop and refine a GIS geodatabase for use in digital geologic field mapping.
- Bartley, J.—Developed Kansas Oil & Gas Legal Field Boundaries database—Continued to work with Kurt Look to develop a statewide GIS dataset of all the legal field boundaries as decided by the Nomenclature Committee. This dataset is complete with data to do three-dimensional formation mapping and production mapping by field. Production, tops, and legal boundaries went into the production of this dataset.
- Bohling, G.—User's Guide to CHRONOS Age-Depth Plot Version 1.00: Kansas Geological Survey, Open-file Report 2004-55, 10 p.
- Wilson, B.—Match well inventories between WIZARD and the KDA-DWR BMT monitoring networks in the Middle Arkansas, Rattlesnake Creek, Upper Arkansas, and fringe areas of the Ogallala aquifer.
- Wilson, B.—Well matched and completed site-specific web site to seamlessly incorporate the Big Bend GMD #5 monitoring network into the WIZARD database.

## **Abstracts**

- Allison, M. L., 2004, Variations of in situ stresses as indicators of active fractures and faults (abs): American Association of Petroleum Geologists, 2004 Annual Convention Abstracts Volume, v. 13, p. A5.
- Allison, M. L., 2004, Strategic geosciences and evolving societal demands (invited abs.); *in*, Topical session on “Geology, Decision-makers, and the Public—Challenges in Communication”: Geological Society of America, Annual Meeting, Denver, Colorado, GSA Abstracts with Programs, v. 36, no. 5, p. 528.
- Allison, M. L., and Baru, C., 2004, Interoperability of databases and software tools—Building geoinformatics and the cyber-infrastructure (abs.): American Association of Petroleum Geologists, 2004 Annual Convention Abstracts Volume, v. 13, p. A4.
- Bartley, J., and Carr, T. R., 2004, Creating a distributed national database for carbon sequestration: 2004 ESRI Petroleum User Group Conference Abstracts, Houston, Texas, February 23–24, p. 19; <http://216.239.41.104/cobrand?q=cache:h2adTC8XtYYJ:www.esri.com/events/pug/docs/agenda.pdf+Bartley&hl=en&ie=UTF-8>.
- Bhattacharya, S., Byrnes, A., Dubois, M., and Gerlach, P., 2004, Screening, integrated characterization and simulation of Mississippian carbonate fields in Kansas to select candidates for infill horizontal drilling: American Association of Petroleum Geologists, Hedberg Conference on Carbonate Reservoir Characterization and Simulation—From Facies to Flow Units, El Paso, Texas.
- Bohling, G. C., 2004, CHRONOS age-depth plot—A Java application for stratigraphic data analysis: Geological Society of America, 2004 Annual Meeting, Denver, Colorado, November 7–10, Paper No. 61–7.
- Bohling, G. C., 2004, A Java data analysis client for CHRONOS: Geological Society of America, 56<sup>th</sup> Annual Rocky Mountain Section Meeting, Boise, Idaho, May 3–5, Paper No. 23–1.

- Brauchler, R., Butler, J. J., Jr., Aufman, M. S., McKay, S. E., Healey, J. M., McCall, G. W., and Knobbe, S., 2004, Direct-push cross-hole slug tests—A new tool for hydraulic characterization of aquifers (abs.): Eos, American Geophysical Union, Transactions, v. 85, no. 47, Fall Meeting Supplement, Abstract H21E-1049.
- Butler, J. J., Jr., Dietrich, P., Christy, T. M., and Wittig, V., 2004, The direct-push permeameter for characterization of spatial variations in hydraulic conductivity—Description and field assessment (abs.): Proceedings of the 2004 North American Environmental Field Conference and Exposition, p. 2.
- Butler, J. J., Jr., Loheide, S. P., II, Kluitenberg, G. J., Bayless, K., Whittemore, D. O., Zhan, X., and Martin, C. E., 2004, Groundwater consumption by phreatophytes in a midcontinent stream-aquifer system (abs.): Eos, American Geophysical Union, Transactions, v. 85, no. 17, Joint Assembly Supplement, p. JA237.
- Byrnes, A., and Bhattacharya, S., 2004, Issues with permeability, relative permeability, and capillary pressure architecture and upscaling to accurately model performance of thin, heterogeneous, shallow-shelf carbonate reservoirs in Kansas: American Association of Petroleum Geologists, Hedberg Conference on Carbonate Reservoir Characterization and Simulation—From Facies to Flow Units, El Paso, Texas.
- Carr, T. R., 2004, State CO<sub>2</sub>-driven EOR and sequestration initiatives in Kansas: Permian Basin Section, Society of Petroleum Engineers, EOR Carbon Management Workshop, December 7–8, Midland, Texas; <http://www.spepb.org/images/pdf/EORCarbonMgtWorkshop/WednesdayPDFFiles/8-Carr.pdf>.
- Carr, T. R., Byrnes, A. P., Dubois, M. K., and White, S. W., 2004, Models for environmentally sound and economically viable carbon dioxide sequestration opportunities: American Association of Petroleum Geologists, Dallas, Texas, April 18–21, p. A21; and Kansas Geological Survey, Open-file Report 2004–19; <http://www.kgs.ku.edu/PRS/publication/2004/AAPG/CO2/ofr2004-19.pdf>.
- Carr, T. R., Dubois, M. K., and Byrnes, A. P., 2004, Use of information technologies to address reservoir compartments in the Permian gas fields of southwest Kansas: American Association of Petroleum Geologists, Rocky Mountain Section, Denver, Colorado, August 9–11, p. 94.
- Carr, T. R., Newell, K. D., Johnson, T. A. Brown, W. M. and Lange, J. P., 2004, Coalbed methane development in Kansas [abs.]: Unconventional Energy Resources in the Southern Midcontinent, Conference Abstracts, Oklahoma Geological Survey, p. 12.
- Dillon, J. S., and Mandel, R. D., 2004, A proposal to add the Honey Creek Fill as a member of the DeForest Formation: 114<sup>th</sup> Annual Meeting of the Nebraska Academy of Sciences, Lincoln, Nebraska, March.
- Diver, P., Fils, D., Bohling, G., Greer, D., and Reed, J. A., 2004, Building the CHRONOS system databases: Geological Society of America, Annual Meeting, Denver, Colorado, November 7–10, Paper No. 61–7.
- Doveton, J. H., and Adkins–Heljeson, D., 2004, Regional mapping of formation waters from brine chemistry integrated with petrophysical data (abs.): American Association of Petroleum Geologists, Convention Abstracts, p. A36; also Kansas Geological Survey, Open-file Report 2004–28; <http://www.kgs.ku.edu/PRS/publication/2004/AAPG/Brine/>.
- Doveton, J. H., Watney, W. L., and Bohling, G. C., 2004, Theory and practice of a web-based intelligent agent in the location of pay zones on digital well log files (abs.): American Association of Petroleum Geologists, Convention Abstracts, p. A36.
- Dubois, M. K., Byrnes, A. P., Seals, S. C., Offenberger, R., Goldstein, L. P., Bohling, G. C., Doveton, J. H., and Carr, T. R., 2004, Characterization and simulation of the Panoma field (Wolfcampian); a tight, thin-bedded carbonate reservoir system, southwest Kansas: American Association of Petroleum Geologists, Hedberg Conference—Carbonate Reservoir Characterization and Simulation—From Facies to Flow Units, March 15–18, El Paso, Texas, 4 p.
- Fils, D., Cervato, C., Bohling, G., Diver, P., Greer, D., and Reed, J. A., 2004, CHRONOS—A services-based framework for chronostratigraphic information retrieval: Geological Society of America, Annual Meeting, Denver, CO, November 7–10, Paper No. 61–7, Paper No. 113–1.
- Fosha, M., Widga, C., and Mandel, R. D., 2004, Preliminary assessment of 39BK100, a multi-component Paleoindian site and possible mammoth kill: 62<sup>nd</sup> Annual Plains Conference, Billings, Montana, October.
- Franseen, E. K., and Goldstein, R. H., 2004, Build-and-fill—A stratigraphic pattern induced in cyclic sequences by sea level and paleotopography: Geological Society of America, Annual Meeting Abstracts with Programs, v. 36, no. 5, p. 377.
- Franseen, E. K., and Goldstein, R. H., 2004, Build-and-fill sequences—Predictable patterns of creation and destruction of paleotopography in small-scale sequences: American Association of Petroleum Geologists, Annual Convention Abstracts Volume, p. A48.
- Hajic, E. R., and Mandel, R. D., 2004, Landscape evolution and paleoindian stratigraphy on the Eastern Plains–Ozark boundary at the Big Eddy site, western Missouri (poster): 18<sup>th</sup> Biennial Meeting of the American Quaternary Association, University of Kansas, Lawrence, Kansas, June.

- Hasiotis, S. T., Hembree, D., Smith, J. J., and Platt, B. F., 2004, Modern crayfish burrows as indicators of a spring and perched water table, Kansas Ecological Research Station, Lawrence, Kansas: Geological Society of America, Annual Meeting Program, v. 36, no. 5, p. 130.
- Holen, S. R., Mandel, R. D., and Hofman, J. L., 2004, Preliminary evidence of stratified Clovis campsites on the High Plains of northwestern Kansas (poster): 18<sup>th</sup> Biennial Meeting of the American Quaternary Association, University of Kansas, Lawrence, Kansas, June.
- Lambrecht, J. L., Miller, R. D., Ivanov, J., and Durrant, S., 2004, High-resolution seismic imaging of catastrophic salt dissolution sinkhole in central Kansas: Proceedings of the symposium on the application of geophysics to environmental and engineering problems: (SAGEEP) Environmental and Engineering Geophysical Society, Wheat Ridge, Colorado, p. 1,099–1,106.
- Loheide, S. P., II, Butler, J. J., Jr., and Gorelick, S. M., 2004, A modeling evaluation of a method for estimating groundwater usage by phreatophytes (abs.): Geological Society of America, Annual Meeting Abstracts with Program, v. 36, no. 5, p. 390.
- Macfarlane, P. A., Bohling, G. C., and Townsend, M. A., 2004, The prototype Plume Busters software—A new tool for computer-assisted instruction in secondary and undergraduate-level earth and environmental science education: Geological Society of America, Abstracts with Programs, v. 36, no. 5, p. 237.
- Macfarlane, P. A., and Wilson, B. B., 2004, Enhancement of a bedrock surface elevation map beneath the Ogallala aquifer in western Kansas (abs.): American Institute of Hydrology, Kansas Section, and Association of Engineering Geologist, Kansas City/Omaha Section, Annual Kansas Hydrology Seminar, Program with Abstracts, no. 13, p. 11–12.
- Macfarlane, P. A., Wilson, B. B., and Townsend, M. A., 2004, High Plains aquifer information and databases—Large data sets for earth science and GIS learning and skill development: Geological Society of America, Abstracts with Programs, v. 36, no. 5, p. 237.
- Mandel, R. D., 2004, Looking across the forest-prairie border—A perspective on Late Quaternary landscape evolution in stream valleys of the Central Great Plains, USA: 18<sup>th</sup> Biennial Meeting of the American Quaternary Association, University of Kansas, Lawrence, Kansas, June.
- Mandel, R. D., and Simmons, A. H., 2004, Evidence for the emergence of complex societies at aceramic Neolithic sites in Jordan and Cyprus—A geoarchaeological perspective: 69th Annual Meeting of the Society for American Archaeology, Montreal, Canada, March.
- Mandel, R. D., Widga, C., Hofman, J. L., Ryan, S., and Bruner, K. M., 2004, Early Holocene landscape evolution and human occupation on the prairie-plains border—Perspectives from the Claussen site, northeastern Kansas (poster): 18<sup>th</sup> Biennial Meeting of the American Quaternary Association, University of Kansas, Lawrence, Kansas, June.
- McKay, S. E., Kluitenberg, G. J., Butler, J. J., Jr., Zhan, X., Aufman, M. S., and Brauchler, R., 2004, In-situ determination of specific yield using soil moisture and water level changes in the riparian zone of the Arkansas River, Kansas (abs.): Eos, American Geophysical Union, Transactions, v. 85, no. 47, Fall Meeting Supplement, Abstract H31D–0425.
- Miller, R. D., Anderson, T. S., Park, C. B., Ivanov, J. M., and Moran, M. L., 2004, Deployment and testing of wavefield imaging systems to detect underground facilities [abs.]: 2004 meeting of the MSS Specialty Group on Battlefield Acoustic and Seismic Sensing, August 23–26.
- Miller, R. D., Rademacker, T. R., and Lambrecht, J. L., 2004, Field test of two high frequency vibrators with two high frequency servovalves at two sites in Kansas with near-surface emphasis: Society of Exploration Geophysicists, p. 1,421–1,424.
- Miller, R. D., Raef, A. E., Byrnes, A. P., Lambrecht, J. L., and Harrison, W. E., 2004, 4-D high-resolution seismic reflection monitoring of miscible CO<sub>2</sub> injected into a carbonate reservoir in the Hall–Gurney field, Russell County, Kansas (abs.): Society of Exploration Geophysicists, Annual Meeting, Expanded Abstracts, v. 74, p. 2,259–2,262.
- Newell, K. D., Johnson, T. A., Brown, W. M., Lange, J. P., and Carr, T. A., 2004, Geological and geochemical factors influencing the emerging gas play in the Cherokee and Forest City basins in eastern Kansas (poster): American Association of Petroleum Geologists, Annual Convention, Dallas, Texas, April 20; also Kansas Geological Survey, Open-file Report, 2004–17, p. A105; received President's Certificate for Excellence in Presentation for Best Poster AAPG Energy Mineral Division.
- Nissen, S. E., Marfurt, K. J., and Carr, T. R., 2004, Identifying subtle fracture trends in the Mississippian saline aquifer unit using new 3-D seismic attributes: Geological Society of America, 2004 Annual Meeting Abstract Volume, Denver, Colorado, November 7–10, p. 234–8; [http://gsa.confex.com/gsa/2004AM/finalprogram/abstract\\_76050.htm](http://gsa.confex.com/gsa/2004AM/finalprogram/abstract_76050.htm).

- Nissen, S., Watney, L., Bhattacharya, S., Byrnes, A., and Young, D., 2004, Geologic factors controlling natural gas distribution related to the January 2001 gas explosions in Hutchinson, KS: American Association of Petroleum Geologists, Annual Conference, Dallas, Texas.
- Park, C. B., Miller, R. D., Xia, J., and Ivanov, J., 2004, Multichannel analysis of passive surface waves [abs.]: 7th Society of Exploration Geophysicists (SEG)—Japan International Symposium, Sendai, Japan, November 24–26.
- Park, C. B., Miller, R. D., Xia, J., and Ivanov, J., 2004, MASW—An easy seismic method to map shear-velocity of the ground: Invited paper at the 2004 annual meeting of the Korean Society of Engineering Geology (KSEG), Kang Won National University, Chun Cheon, Korea, April 30–May 1.
- Seyler, B., Frailey, S. M., Carr, T. R., Drahovzal, J. A., Nuttall, B. C., Rupp, J. A., Solano, W., and Wickstrom, L. H., 2004, Use of relational database and GIS tools to assess carbon sequestration volumes—The MIDCARB database: American Association of Petroleum Geologists, Annual Meeting, Dallas, Texas, April 18–21, p. 127.
- Smith, J. J., Hasiotis, S. T., and Kraus, M. J., 2004, Preliminary study on the occurrence and distribution of trace fossils in paleosols across the Paleocene–Eocene Thermal Maximum (PETM) in the Bighorn basin, Wyoming: Journal of Vertebrate Paleontology Annual Meeting, Abstracts of Papers, v. 24, no. 3, Supplement, p. 114.
- Smith, J. J., Hasiotis, S. T., Kraus, M. J. and Woody, D., 2004, The occurrence and diversity of trace fossil in paleosols of the lower Eocene Willwood Formation during the Paleocene–Eocene Thermal Maximum (PETM) event—Preliminary results: Geological Society of America, Annual Meeting Program, v. 36, no. 5, p. 62.
- Sophocleous, M. A., 2004, Groundwater recharge and sustainability in the High Plains aquifer—Prospects for the future: Geological Society of America, Annual Meeting & Exposition, Denver, Colorado, November 7–10, Abstracts with Programs, v. 36, no. 5, p. 390.
- Sophocleous, M. A., 2004, Hydro-ecological principles for sustainable water resources management: NGWA's 2004 Ground Water Expo, December 12–15, Las Vegas, Nevada, Interest Group Sessions, Program and Abstract Book, p. 19.
- Sophocleous, M. A., 2004, Water resources sustainability and its application in Kansas: 2004 Gussow Geoscience Conference, March 19–20, Canmore, Alberta.
- Sophocleous, M. A., 2004, Water resources sustainability and its application in Kansas: GeoQuebec2004, 57<sup>th</sup> Canadian Geotechnical Conference and 5<sup>th</sup> Joint CGS/IAH-CNC Conference, Quebec City, Canada, October 24–27, Final Program, H34.458.
- Sorensen, J. H., and Adkins–Heljeson, D., 2004, Library and archive materials available on the Kansas Geological Survey's website—Where we are and where we are headed (abs.): Geological Society of America, Abstracts with Programs, v. 36, no. 5, p. 130.
- Townsend, M. A., 2004, Geology and human health—revisiting an old topic: American Institute Hydrology and Association of Engineering Geology, 13th Annual Kansas Hydrology Seminar, November 19, Topeka, Kansas, p. 5.
- Townsend, M. A., and Davis, J. C. 2004, Have you considered donating your favorite data set to the education community?: Geological Society of America, Abstracts with Programs, v. 36, no. 5.
- Townsend, M. A., Macfarlane, P. A., Bohling, G. C., and Case, S. B., 2004, The ground water tutor—an interactive method to develop understanding of hydrogeology and environmental issues: Geological Society of America, North Central Section meeting, Abstracts with Programs, v. 36, no. 3, p. 48, [http://gsa.confex.com/gsa/2004NC/finalprogram/abstract\\_71337.htm](http://gsa.confex.com/gsa/2004NC/finalprogram/abstract_71337.htm).
- Townsend, M. A., and Macko, S. A., 2004, Use of nitrogen-15 isotope method in soils and ground water to determine potential nitrogen sources affecting a municipal water supply in Kansas, USA: Eos, American Geophysical Union, Transactions, v. 85, no. 47, Abstract H41D–0330, <http://www.agu.org/meetings/fm04/waisfm04.html>.
- Townsend, M. A., and Sleezer, R. O., 2004, Implications of temporal and spatial variability in nitrate-N concentrations derived from soil-water samplers and soil cores in the vadose zone of south-central Kansas: Geological Society of America, Abstracts with Programs, v. 36, no. 5, p. 330, [http://gsa.confex.com/gsa/2004AM/finalprogram/abstract\\_80193.htm](http://gsa.confex.com/gsa/2004AM/finalprogram/abstract_80193.htm).
- Townsend, M. A., and Whittemore, D. O., 2004, Natural and anthropogenic sources of contamination to the surface and ground waters of Kansas: Geology and Human Health NSF On the Cutting Edge—Professional Development for Geoscience Faculty Workshop, Chico Hot Springs, Pray, Montana, May, invited participant; <http://serc.carleton.edu/images/NAGTWorkshops/health04/TownsendPosterImage.gif>.
- Townsend, M. A., and Whittemore, D. O., 2004, Natural and anthropogenic sources of contamination to the surface and ground waters of Kansas: National Association Geosciences Teachers, Workshop on Geology and Human Health, Pray, Montana, poster, <http://serc.carleton.edu/images/NAGTWorkshops/health04/TownsendPosterImage.gif>.

- Watney, W. L., Doveton, J. H., Carr, T. R., Bohling, G. C., Victorine, J. Pakalapati, J., Bhattacharya, S., Byrnes, A. P., Gagnon, G., Stalder, K., Moore, M., Dubois, M. K., Guy, W. J., and Look, K., 2004, Collaborative geo-engineering reservoir characterization and modeling on the web (abs.): American Association of Petroleum Geologists, Convention Abstracts, Dallas, Texas, p. A145.
- Whittemore, D. O., Butler, J. J., Jr., Healey, J. M., McKay, S. E., Aufman, M. S., and Brauchler, R., 2004, Decadal to diurnal variations in water quality in the alluvial aquifer of the middle Arkansas River, Kansas: Geological Society of America, Abstracts with Program, v. 36, no. 5, p. 451.
- Whittemore, D. O., Butler, J. J., Jr., Healey, J. M., McKay, S. E., Aufman, M. S., and Brauchler, R., 2004, Seasonal and long-term groundwater quality changes in alluvial aquifer systems (abs.): Geological Society of America, Annual Meeting Abstracts with Program, v. 26, no. 5, p. 451.
- Whittemore, D. O., Butler, J. J., Jr., Healey, J. M., and Zhan, X., 2004, Flow through a well annulus implied by chemical changes during a pumping test: Proceedings 13<sup>th</sup> Annual Kansas Hydrology Seminar, American Institute of Hydrologists (Kansas Section) and Association of Engineering Geologists (Kansas City/Omaha Sections), Topeka, Kansas.
- Whittemore, D. O., Koelliker, J. K., Hoagland, K. D., Sanford, W. D., and Butler, J. J., Jr., 2004, Hydrologic observatory for the Republican River Basin/High Plains aquifer—A barometer for global climate change: Eos, American Geophysical Union, Transactions, v. 85, no. 47, Fall Meeting Supplement, Abstract H31C-04391.
- Wilson, B. B., Bennett, B., and Bohling, G. C., 2004, The Kansas paperless ground-water level measurement program: Geological Society of America, Annual Meeting, Denver, Colorado, November 7–10, Paper No. 61–7, Paper No. 243–1.
- Wozniak, L. A., Bettis, E. A., III, Mandel, R. D., Hajic, E. R., Ray, J. H., and Lopinot, N. H., 2004, A younger Dryas carbon isotope record from soil organic matter on the southern margin of the prairie peninsula (poster): 18<sup>th</sup> Biennial Meeting of the American Quaternary Association, University of Kansas, Lawrence, Kansas, June.
- Wozniak, L. A., Bettis, E. A., III, Mandel, R. D., Hajic, E. R., Ray, J. H., and Lopinot, N. H., 2004, A younger Dryas carbon isotope record from soil organic matter on the southern margin of the prairie peninsula: Geological Society of America, Denver, Colorado, November.

## **Presentations**

- Adkins–Heljeson, M.—Presentation on “Review process of open-file reports at KGS,” at Association of Earth Science Editors, Estes Park, Colorado.
- Allison, M. L.—Presentation on “The 2004 Kansas Energy Plan” to the Kansas House Utilities Committee, January 15 (invited testimony).
- Allison, M. L.—Presentation on “Economic opportunities for Kansas energy” to the Kansas Inc. Board Meeting, Topeka, Kansas, January 15.
- Allison, M. L.—Presentation on “The 2004 State Energy Plan” to the Kansas Senate Utilities Committee, January 21, (invited testimony).
- Allison, M. L.—Presentation on “High Plains aquifer—The challenge of sustainable yield” to the Audubon Society, Flint Hills chapter, Manhattan, Kansas, January 21.
- Allison, M. L.—Presentation on “Wind and the Kansas Energy Plan” to Wind & Prairie Task Force, Topeka, Kansas, January 23.
- Allison, M. L.—Presentation on “Hutchinson gas explosions—Unraveling a geologic mystery” to American Society of Civil Engineers/Association of Engineering Geologists, Kansas City, Missouri, February 4.
- Allison, M. L.—Presentation on “Kansas Energy Plan” to Desk & Derrick Club, Great Bend, Kansas, February 5.
- Allison, M. L.—Presentation on “Natural gas in Kansas” to 18th Annual Corrosion Control Seminar, National Association of Corrosion Engineers, Great Bend, Kansas, February 6.
- Allison, M. L.—Presentation on “Hutchinson gas explosions—Unraveling a geologic mystery” to University of Utah Dept of Geology and Geophysics, Distinguished Lecture Series, Salt Lake City, Utah, March 25.
- Allison, M. L.—Presentation on “Geoinformatics—Cyberinfrastructure for the earth sciences” University of Utah, Department of Geology and Geophysics, Salt Lake City, Utah, March 26.
- Allison, M. L.—Presentation on “The Hutchinson incident” to Solution Mining Research Institute, Mid-year meeting, Wichita, Kansas, April 20.
- Allison, M. L.—Presentation on “The Kansas State Energy Plan—Wind energy, transmission, FutureGen, and more,” to Kansas Municipal Utilities Annual Meeting, Wichita, Kansas, May 13.



- Allison, M. L.—Presentation on “Hitchhikers guide to geoinformatics—Life, the universe, and everything” to Marine and Terrestrial Sedimentary Data Workshop (NSF sponsored), Joint Oceanographic Institutions, Washington, D.C., June 3.
- Allison, M. L.—Presentation on “Kansas Energy” to Rotary Club, Lawrence, Kansas, June 7.
- Allison, M. L.—Presentation on “Coalbed methane in the US” to National Association of Gas Consumers, Branson, Missouri, October 21.
- Allison, M. L.—Presentation on “Kansas energy” to Kansas Renewable Energy and Efficiency Conference, Topeka, Kansas, October 26, keynote address.
- Allison, M. L.—Presentation on “Geoinformatics and the role of cyberinfrastructure in geosciences research,” to Geological Society of America, Pardee Symposium, Co-convenor, Denver, Colorado, November 9.
- Allison, M. L.—Presentation on “50 years of Quaternary geology studies at the KGS” to American Quaternary Association annual meeting, June 26, Lawrence, Kansas, welcoming address.
- Allison, M. L.—Presentation on “Variations of in situ stresses as indicators of active fractures and faults” (with published abs) to American Association of Petroleum Geologists, Annual Meeting, 2004.
- Allison, M. L.—Presentation on “Current challenges in Kansas energy” to KSU Geology Alumni Annual Meeting, Manhattan, Kansas, October 14.
- Allison, M. L.—Presentation on “Coalbed methane in the U.S.” to National Association of Gas Consumers, Branson, Missouri, October 21.
- Allison, M. L.—Presentation on “Kansas energy developments” to Kansas Renewable Energy and Efficiency Conference, Topeka, Kansas, October 26, keynote speech.
- Bartley, J. D., and Carr, T. R., 2004, Creating a distributed national database for carbon sequestration: ESRI Users Conference, San Diego, California;  
[http://hercules.kgs.ku.edu/kgs/oilgas/powerpoints/UC2004\\_BARTLEY\\_NATCARB.ppt](http://hercules.kgs.ku.edu/kgs/oilgas/powerpoints/UC2004_BARTLEY_NATCARB.ppt).
- Bartley, J. D., and Look, K., 2004, Taking advantage of your enterprise GIS system: ESRI Users Conference, San Diego, CA; [http://hercules.kgs.ku.edu/kgs/oilgas/powerpoints/UC2004\\_BARTLEY\\_ENTERPRISEGIS.ppt](http://hercules.kgs.ku.edu/kgs/oilgas/powerpoints/UC2004_BARTLEY_ENTERPRISEGIS.ppt).
- Bartley, J. D., 2004, Taking control of your enterprise ArcIMS system: MidAmerica GIS Consortium, Kansas City, Missouri; [http://hercules.kgs.ku.edu/kgs/oilgas/powerpoints/magic/arcims\\_manage\\_new.ppt](http://hercules.kgs.ku.edu/kgs/oilgas/powerpoints/magic/arcims_manage_new.ppt).
- Bartley, J. D., and Allison, M. L., 2004, Geoinformatics at the Kansas Geological Survey: Conference on Higher Education Computing in Kansas (CHECK 2004), Lawrence, Kansas;  
<http://hercules.kgs.ku.edu/kgs/oilgas/powerpoints/check2004.ppt>.
- Bartley, J. D., and Carr, T. R., 2004, Creating a distributed national database for carbon sequestration: MidAmerica GIS Consortium, Kansas City, Missouri;  
[http://hercules.kgs.ku.edu/kgs/oilgas/powerpoints/magic/magic\\_natcarb.ppt](http://hercules.kgs.ku.edu/kgs/oilgas/powerpoints/magic/magic_natcarb.ppt).
- Bartley, J. D., and Look, K., 2004, Taking advantage of your enterprise GIS system: MidAmerica GIS Consortium, Kansas City, Missouri; [http://hercules.kgs.ku.edu/kgs/oilgas/powerpoints/magic/magic\\_database.ppt](http://hercules.kgs.ku.edu/kgs/oilgas/powerpoints/magic/magic_database.ppt).
- Bartley, J. D., and Carr, T. R., 2004, Creating a distributed national database for carbon sequestration: ESRI Petroleum Users Group Conference, Houston, Texas;  
[http://hercules.kgs.ku.edu/kgs/oilgas/powerpoints/pugtalk\\_update.ppt](http://hercules.kgs.ku.edu/kgs/oilgas/powerpoints/pugtalk_update.ppt).
- Battles, E.—Gave a presentation about Federal Geographic Data Committee (FGDC) metadata and available tools at KAM conference.
- Bohling, G. C., and Wilson, B. B., 2004, Statistical and geostatistical analyses of year 2004 water levels in the Kansas High Plains aquifer: 49<sup>th</sup> Annual Midwest Ground Water Conference, Bloomington, Indiana, October 27–29, Program with Abstracts.
- Brady, L.—Presentation on “Coalbed methane in eastern Kansas,” to annual meeting of the Geology Section of the Kansas Department of Transportation, Chanute, Kansas, January 21.
- Brady, L.—Presentation on “Kansas coal and coalbed methane in northeast Kansas,” to a citizen audience from Jackson County and surrounding areas, sponsored by the Jackson County Farm Bureau, Holton, Kansas, March 16.
- Brady, L.—Presentation on “Kansas coal and coalbed methane in southeast Kansas,” to a citizen audience from Montgomery County and surrounding areas, sponsored by the Montgomery County Farm Bureau, Independence, Kansas, January 27.
- Brady, L.—Presentation on “Kansas coal and coalbed methane in eastern Kansas,” to a citizen audience from Franklin County and surrounding areas, sponsored by the Franklin County Farm Bureau, Ottawa, Kansas, January 27.

- Buddemeier, R. W., Sleezer, R. O., Young, D. P., Egbert, S., deNoyelles, F. J., Zhan, X., Renwick, W. H., and Smith, S. V., 2004, Small artificial water bodies—A neglected but important factor in water supply and environmental quality: 21st Annual Water and the Future of Kansas Conference, no. 33, March.
- Butler, J. J., Jr., 2004, New methods for high-resolution characterization of spatial variations in hydraulic conductivity, an invited presentation at the International Symposium on Hydrogeological Investigation and Remedial Technology, National Central University, Jhongli, Taiwan, November 15.
- Butler, J. J., Jr., 2004, Direct-push methods for characterization of spatial variations in hydraulic conductivity, an invited presentation at the Fall 2004 Conference of the Association of Engineering Geologists, Kansas City/Omaha Section, Kansas City, Missouri, October 23.
- Butler, J. J., Jr., 2004, Groundwater flow in interconnected stream-aquifer systems—From models to the field, an invited presentation to the Department of Geological and Atmospheric Sciences, Iowa State University, Ames, Iowa, March 12.
- Butler, J. J., Jr., Kluitenberg, G. J., and Whittemore, D. O., 2004, A field method for estimation of ground-water consumption by phreatophytes—year one (abs.): Proceedings of the 21<sup>st</sup> Annual Water and the Future of Kansas Conference, p. 27.
- Carr, T. R.—Invited lecture, “Linked Energy Systems,” University of Arkansas, Fayetteville, Arkansas, February 20.
- Carr, T. R.—Invited testimony before the Kansas Senate Utilities Committee, “Coalbed methane in Kansas, March 4; also Kansas Geological Survey, Open-file Report 2004–9, <http://www.kgs.ku.edu/PRS/publication/ofr2004-9/Testimony.pdf>.
- Carr, T. R.—Invited testimony before the House Environment Committee, “Geologic CO<sub>2</sub> sequestration in Kansas,” March 9; also Kansas Geological Survey Open-File Report 2004–10, <http://www.kgs.ku.edu/PRS/publication/ofr2004-10/Testimony.pdf> and [http://www.kgs.ku.edu/PRS/publication/ofr2004-10/House\\_Environment\\_Testimony.pdf](http://www.kgs.ku.edu/PRS/publication/ofr2004-10/House_Environment_Testimony.pdf).
- Carr, T. R.—Invited Lecture, “Linked energy systems,” at Michigan Technological University, Houghton, Michigan, March 22.
- Carr, T. R.—Invited facilitator and speaker, “Role of GIS in Carbon Sequestration,” at U.S. Department of Energy Conference on Developing Carbon Sequestration Partnerships, Alexandria, Virginia, April 6.
- Carr, T. R.—Invited field conference presenter for Kansas Field Conference, “The Kansas Flint Hills—Energy, Prairie, and Preservation,” at Emporia, Kansas, June 9.
- Carr, T. R.—Invited talk, “Energy and the Future,” to Lawrence Kansas Rotary, Lawrence, Kansas, June 14.
- Carr, T. R.—Invited talk, “Coalbed Methane in Kansas,” to Wichita Section of the Society of Petroleum Engineers, Wichita, Kansas, October 13; [http://www.kgs.ku.edu/CBM/reports/SPE\\_CBM.pdf](http://www.kgs.ku.edu/CBM/reports/SPE_CBM.pdf).
- Carr, T. R.—Invited talk, “Creating a distributed national carbon sequestration database and geographic information system (NatCarb),” to U.S. Department of Energy, Annual Program Review for Regional Carbon Sequestration Partnerships, Pittsburgh, Pennsylvania, November 16.
- Carr, T. R.—Invited talk, “State CO<sub>2</sub> driven EOR and sequestration initiatives in Kansas,” EOR Carbon Management Workshop, December 7–8, Midland, Texas; <http://www.spepb.org/images/pdf/EORCarbonMgtWorkshop/WednesdayPDFFiles/8-Carr.pdf>.
- Charlton, J. C.—Computer-simulated panorama of the Flint Hills in the traveling exhibit, “Homage to the Flint Hills—A Gathering of Art Inspired by the Tallgrass Prairie of Kansas, 2004–2006”. After traveling in Kansas the exhibit was shown at the Senate Office Building in Washington, D.C. in June 2006. The exhibit traveled with a full color catalogue.
- Dunham, J.—Presentation on “Metadata toolbox,” at the MidAmerica GIS Symposium (MAGIC) Biennial Conference, Kansas City, Missouri, April 21.
- Franseen, E. K.—Invited paper for Geotimes, “2004 Highlights in Carbonate Research”, Highlights in the Earth Sciences Issue.
- Franseen, E. K.—Invited presentation, “Build-and-fill—A stratigraphic pattern induced in cyclic sequences by sea level and paleotopography, at the Geological Society of America Annual Meeting.
- Franseen, E. K.—Invited presentation, “Build-and-fill sequences—Predictable patterns of creation and destruction of paleotopography in small-scale sequences,” at American Association of Petroleum Geologists Annual Convention.
- Franseen, E. K.—Invited presentation, “Evaluation of some geologic factors affecting the quality of limestone construction aggregate” at the 55<sup>th</sup> Highway Geology Symposium, September 7–10, Kansas City, Missouri.
- Guinotte, J. M., Bartley, J. D., Iqbal, A., Fautin, D. G., and Buddemeier, R. W., 2004, Predicting and understanding biogeographic ranges from occurrence records and correlated environmental data—A method-development

- study using clownfishes and their sea anemone hosts: OBI Conference, Hamburg, Germany; <http://www.vliz.be/obi/presentations/Bartley&Fautin.pps>.
- Houts, M., deNoyelles, J., Sleezer, R. O., and Young, D. P., 2004, Using multispectral airborne imagery to inventory and assess rural water bodies (abs.): Water and the Future of Kansas Conference, Proceedings, no. 21, p. 60.
- Ludvigson, G. A., 2004, Facets of the Ordovician geology of the Upper Mississippi Valley region, presented at Kansas Geological Survey, Lawrence, Kansas, November 30.
- Macfarlane, P. A., and Wilson, B. B., 2004, Enhancement of the bedrock surface elevation map beneath the Ogallala aquifer in western Kansas: Proceedings of the 13th Annual Kansas Hydrology Seminar, Topeka, p. 11–12.
- Macfarlane, P. A., and Wilson, B. B., 2004, A preliminary updated bedrock surface elevation map of the Ogallala region, western Kansas; *in*, Competing priorities—Resolving conflicts, P. A. Macfarlane and M. A. Townsend: 21st Water and the Future of Kansas Program and Abstracts, March 11, Lawrence, Kansas, p. 46.
- Macfarlane, P. A., Townsend, M. A., and Wilson, B. B., 2004, Kansas karst map and the Kansas on-line database: Proceedings of the 22nd Annual Water and the Future of Kansas Conference, March 17.
- Mandel, R. D.—Presentation on “Geoarchaeology of Archaic earthworks in northeastern Louisiana,” at Washington University, Department of Anthropology Lecture Series, St. Louis, Missouri, March 5.
- Mandel, R. D.—Presentation on “Late Quaternary landscape evolution in the Central Great Plains of North America,” at Washington University, Department of Earth and Planetary Sciences Lecture Series, March 4.
- Mandel, R. D.—Presentation on “Paleoindian and pre-Clovis sites in Kansas—A geoarchaeological perspective,” at Washburn University, Department of Sociology and Anthropology Lecture Series, Topeka, Kansas, October 14.
- Miller, R. D., 2004, Identifying areas with subsidence potential beneath US 50 in Reno County: Operations meeting of the Kansas Department of Transportation, Great Bend, Kansas, October 5.
- Miller, R. D., 2004, High-resolution seismic reflection investigation of a subsidence feature on U.S. highway 50 near Hutchinson, Kansas: Solution Mining Research Institute, April 21.
- Miller, R. D., 2004, High-resolution seismic reflection to delineate structures at the northern extreme of the Nemaha Ridge/Humboldt fault in east-central Nebraska: Seminar at Ash Grove Cement Company, April 20.
- Miller, R. D., 2004, Seismic survey of U.S. 50 at Hutchinson, Kansas: Shallow Exploration Drillers Clinic, Topeka, Kansas, March 30.
- Miller, R. D., and Henthorne, R., 2004, High-resolution seismic reflection to identify areas with subsidence potential beneath U.S. 50 highway in eastern Reno County, Kansas: Proceedings of the 55th Highway Geology Symposium, September 8–10, Kansas City, Missouri, p. 29–48.
- G. Misgna, Zhan, X., and Tsou, M., 2004, Integrated GIs-AnnAGNPS modelling system for nonpoint source watershed analyses: ESRI International User Conference, Paper 2046, San Diego, California, August.
- Newell, K. D., 2004, Coalbed gas and water issues in Kansas, presented at the Kansas Water Board, Topeka, Kansas, January 21.
- Newell, K. D., 2004, Coalbed gas in Kansas, presented to the Lawrence Cosmopolitan Club, Lawrence, Kansas, March 19.
- Park, C. B.—Conference co-chair and session chair, Society of Exploration Geophysicists Japan (SEG-J), 7<sup>th</sup> International Symposium, November, Sendai, Japan.
- Park, C. B.—Invited presentation, Korea Institute of Geology, Mining, and Materials (KIGAM), August, Daejeon, Korea.
- Park, C. B.—Invited speaker, Korean Society of Engineering Geology (KSEG) Annual Meeting, April, Kangwon National University, Chuncheon, Korea.
- Park, C. B.—Presentation at Society of Exploration Geophysicists (SEG) 14<sup>th</sup> Annual Meeting, Denver, Colorado, October 10–15.
- Sleezer, R. O., Young, D. P., Vopata, J., Wilson, E., and Andereck, Z., 2004, Assessing temporal changes in ponds and pond numbers using historical air photos, a comparison between the Midland and Allen SE quadrangles (abs.): Water and the Future of Kansas Conference, Proceedings, no. 21, p. 57.
- Smith, J. J., Hasiotis, S. T., Kraus, M. J., and Woody, D., 2004, The occurrence and diversity of trace fossils in paleosols of the lower Eocene Willwood Formation—Preliminary results: G-Hawk Student Symposium, Geology Department, University of Kansas, Program and Abstract Volume.
- Sophocleous, M., 2004, Environmental consequences of ground-water overexploitation (abs.): Water and the Future of Kansas Conference, Proceedings, no. 21, p. 11.
- Sophocleous, M.—Invited lecturer at the University of California—Davis Distinguished Speaker Series 2003–04, “The role of the subsurface environment in water resource management” February 5.
- Sophocleous, M.—Invited keynote speaker at the Canadian Society of Petroleum Geologists’ W.C. Gussow Geoscience Conference on Water and Energy Development, March 19, Canmore, Alberta.

- Sophocleous, M.—Invited keynote speaker at 2004 GeoQuebec joint Conference of the Canadian National Chapter of IAH and Canadian Geotechnical Conference on water resources sustainability and its application in Kansas, Quebec City, Canada, October 25.
- Suchy, D. R., and Adkins–Heljeson, D., 2004, KGS geohydrologic data on the internet (abs.): 21<sup>st</sup> Annual Water and the Future of Kansas Conference, Lawrence, Kansas.
- Suchy, D.—Gave presentation to local boyscout leaders on educational resources of KGS and information about projects and geologic field trips suitable for boy scouts; gave presentation on geology, careers in geology, rocks, minerals, and fossils to Mrs. Montgomery’s 3<sup>rd</sup> Grade science class at Wakarusa Valley Elementary School, Lawrence, Kansas.
- Suchy, D.—Kansas Ground Water Association Convention, Great Bend, KS; presented paper on “KGS website, databases, and water well forms.”
- Townsend, M.—The 2004 ground-water workshop for secondary teachers of earth and environmental science, at Kansas Geological Survey, July.
- Townsend, M. A., Clark, G. A., Young, D. P., and Briggeman, S., 2004, HIPLAIN—The High Plains Aquifer Information Network, [www.hiplain.org](http://www.hiplain.org) (abs.): Water and the Future of Kansas Conference, Proceedings, no. 21, p. 18.
- Watney, W. L., Bhattacharya, S., Byrnes, A., Doveton, J., Victorine, J., and Brownrigg, R., 2004, PTTC workshop—Practical petroleum reservoir characterization and modeling using free web-based software tools and data, Lawrence, KS, November 16; <http://www.kgs.ku.edu/Gemini/gemini-reports.html>.
- Whittemore, D. O., 2004, Spatial and temporal changes in flow and water quality in the Cimarron River, southwestern Kansas: Proceedings 21<sup>st</sup> Annual Water and Future of Kansas Conference, Lawrence, Kansas, p. 35.
- Wilson, B.—Poster display at Kansas Rural Water Association Conference
- Wilson, B. B., 2004, Water-right development in Kansas (abs.): Water and the Future of Kansas Conference, Proceedings, no. 21, p. 64.
- Wilson, B.—Presentation at Kansas High Plains Ag-Expo and Farm Show.
- Wilson, B.— Presentation at KWO Brown Bag Seminars.
- Wilson, B.— Presentation at International ESRI User Conference.
- Wilson, B.—KSNT Topeka TV interview (water levels and droughts).
- Wilson, B.— Presentation at KDA-DWR Fall Conference.
- Wilson, B.— Presentation at MidAmerica GIS Symposium.
- Wilson, B.— Presentation at Kansas Geological Survey Advisory Council.
- Wilson, B.— Presentation at Kansas Agriculture and Rural Leadership Program.
- Wilson, B.— Presentation at Kansas Environmental Leadership Program.
- Young, D. P., Briggeman, S., Townsend, M. A. and Clark, G., 2004, High Plains aquifer information network (HIPLAIN)—year 2: 21<sup>st</sup> Annual Water and the Future of Kansas Conference, March, Lawrence, Kansas, Program and Abstracts, no. 21, p. 45.
- Young, D. P., Sleezer, R. D., Zhan, X., and Buddemeier, R. W., 2004, Watershed parameterization using geospatial modeling and preliminary assessment of the effects of small impoundments (ponds) (abs.): Water and the Future of Kansas Conference, Proceedings, no. 21, p. 58.
- Xia, J.— High-frequency Rayleigh wave and its applications in near-surface geophysics: Jilin University, China, June 2004.
- Xia, J.— High-resolution magnetic method and magnetic gradient method in locating abandoned brine wells in Hutchinson, Kansas: Kansas State University Department of Geology, February 10, 2004.

## **Awards**

- Allison, M. L.—Elected Honorary Member, Association of American State Geologists.
- Byrnes, A.—Canadian Well Logging Society President’s Award.
- Carr, T. R.—Best Poster, Energy Mineral Division, Annual American Association of Petroleum Geologists, National Convention, Dallas, Texas.
- Newell, K. D.—Energy Minerals Division President’s Award for Excellence in Presentation (poster); American Association of Petroleum Geologists National Convention, Dallas, Texas.
- Sawin, R. S.—KU Unclassified Non-teaching Employee of the Month, November.

## **Internal Service**

Adkins–Heljeson, M.—Member, University of Kansas Review Panel of KGS Director.

Adkins–Heljeson, M.—Compiled booklet about KGS art collection.

Adkins–Heljeson, M.—Chair of subcommittee on unclassified evaluation and promotion for KGS strategic planning, 2004–06.

Allison, M. L.—Chaired annual gathering of chairs of Regents universities geology departments.

Allison, M. L.—Facilitated KU–KSU–WSU Auger Observatory proposal with State officials.

Battles, E.—Created series of custom maps for the University of Kansas Chancellor's office, titled “Wheat State Whirlwind: A Tour of the Heartland for KU Faculty.”

Brady, L. L.—Member, The Geology Associates Advisory Board, Department of Geology, University of Kansas, 2004–; Co-Chair, Alumni Relations Committee.

Buchanan, R. C.—Advisory Board, Osher Lifelong Learning Institute, University of Kansas Office of Continuing Education, 2004–07.

Buchanan, R. C.—University of Kansas, Integrated Marketing Committee, 2004.

Butler, J. J.—Co-Chair, KGS Strategic Planning Committee (2004–05).

Butler, J. J.—Member, University of Kansas Review Panel of KGS Director (2004).

Butler, J. J.—Member, KGS Evaluation System Review Committee (2003–).

Carr, T. R.—Supervised Troy A. Johnson (M.S., 2004); Thesis contributed to 2004 poster that received President's Certificate for Excellence in Presentation for Best Poster AAPG Energy Mineral Division.

Doveton, J.—Taught KU course GEOL 536, Log Analysis of Subsurface Geology; C&PE 528, Well Logging; C&PE 825, Wireline petrofacies analysis (Graduate Problem).

Franseen, E. K.—Chair, KGS Promotion and Review Committee, 2004–05.

Franseen, E. K.—Member of KGS Strategic Planning Committee.

Franseen, E. K.—Supervised KU graduate student thesis research for Edward Washburn and Peter Dillet.

Mandel, R.—Member of KU faculty search committee, biological anthropology position.

Newell, K. D.—Member of KGS Stratigraphic Nomenclature Committee.

Park, C. B.—Taught symposium on the Application of Geophysics to Engineering and Environmental Problems at KGS, September 28–29, October 7–8.

Sophocleous, M.—Member of the KGS Promotion and Review Committee, 2004, 2005, 2006.

Sorensen, J.—Member, Search Committee, Energy Research Section, Geologist, Hugoton Project.

Sorensen, J.—Member, Search Committee, Public Outreach, Sr. Administrative Assistant, 2004.

Watney, W. L.—Chair, KU Research Sector Promotion and Tenure Committee (2003–05).

Xia, J.—Taught short course on Inversion Theory and Applications of High-frequency Surface-wave Techniques, KGS (2004, 2005, 2006, 2007, and 2008).

## **External Service**

Allison, M. L.—Director, Governor's Office of Science and Energy Policy.

Allison, M. L.—State Board on Earth Sciences and Resources.

Allison, M. L.—Assumed chair of national earth science cyberinfrastructure forum for NSF.

Allison, M. L.—Led State's Wind & Prairie initiative; serving as Governor's spokesperson.

Allison, M. L.—Member, Governor's Senior Policy Council.

Allison, M. L.—Member, Governor's Natural Resources Sub-cabinet.

Allison, M. L.—Convenor, NSF workshop “Planning and coordinating environmental cyberinfrastructure activities in the earth sciences,” Los Angeles, California, February 9–10.

Allison, M. L.—Co-convenor, Geological Society of America Pardee Symposium, “Geoinformatics and the role of cyberinfrastructure in geosciences research,” Denver, Colorado, November.

Allison, M. L.—Member of National Research Council, Board on Earth Sciences and Resources, April 2004–December 31, 2006.

Allison, M. L.—Chair, Kansas Energy Council (appointed by the Governor, June 2004).

Allison, M. L.—Kansas Citizens for Science, 1999–present; Board of Directors, 2004–.

Battles, E.—Served on Kansas Association of Mappers (KAM) Executive Board.

Battles, E.—Nominated, elected, and began serving as Secretary for the Kansas Association of Mappers (KAM) Executive Board.

Battles, E.—Moderated several sessions at the Mid-America GIS Symposium (MAGIC) Conference.

Battles, E.—Taught half-day short course at MAGIC on preparing and maintaining Federal Geographic Data Committee (FGDC) metadata.

Battles, E.—Gave a presentation to the Kansas State University Geology Club about DASC and IMS services.

Brady, L. L.—American Association of Petroleum Geologists, Energy Minerals Division, Honors and Awards Committee.

Brady, L. L.—Co-Leader, Field trip “Overview of coal and coalbed methane in the Cherokee basin, northeast Oklahoma” as part of the First Midcontinent Coalbed Methane Symposium, November 9.

Buchanan, R. C.—Groundwater Quality Task Force, Wichita Home Builders Assn./Equus Beds Groundwater Management District #2, 2003–.

Buchanan, R. C.—Leadership Lawrence, Curriculum Committee, 2004.

Buchanan, R. C.—Kansas Association for Conservation and Environmental Education, Secretary, 2000–08.

Butler, J. J.—Deputy Chair (5/02–7/04), Chair (7/04–6/06), Groundwater Technical Committee, American Geophysical Union.

Butler, J. J.—Panelist—AAAS Research Competitiveness Service, Panel for Review of New Mexico NSF EPSCoR Program, April.

Butler, J. J.—National Science Foundation—Water Cycle Proposal Panel, November.

Butler, J. J.—Taught workshop on “Advances in pumping and slug testing for improved site characterization—New concepts, field methods, and data analysis techniques,” sole instructor, Hudson–Mohawk Valley Professional Geologists Association, Albany, New York, April 19.

Carr, T. R.—Member and Kansas Representative to Interstate Oil and Gas Commission Committee on Regulation of Geologic Sequestration (2003–07).

Carr, T. R.—Testimony before the Kansas Senate Utilities and House Environment committees.

Carr, T. R.—First Midcontinent Coalbed Methane Symposium, Petroleum Technology Transfer Council, Midcontinent CBM Forum and the OIPA, Tulsa, Oklahoma, November 7–9.

Doveton, J.—Associate Editor, AAPG Bulletin, 2001–present.

Doveton, J.—Assistant Editor, Mathematical Geology, 1995–2007.

Doveton, J.—IAMG Councilor 2000–2004.

Doveton, J.—Assistant Editor, Natural Resources Research, 2000–present.

Doveton, J.—NExT Short Course on Basic Statistics for Petrophysicists, June 14–15; NExT Short Course on “Basic Log Analysis of Fluid Volumetrics and Productivity,” June 16–17; NExT Short Course on “Rock Composition Log Analysis,” June 18, Tulsa, Oklahoma.

Doveton, J.—PTTC Workshop “The Crash Course on Log Analysis: An Excel Spreadsheet Workshop,” October 14.

Doveton, J.—HOT Short Course on “Geological Log Analysis,” Vienna, Austria, October 4–8.

Doveton, J.—PTTC Short Course on “Reading the Rocks from Wireline Logs,” March 12.

Doveton, J.—Tulsa Geological Society, Geophysical Society of Tulsa “Crash Course in Log Analysis—An Excel Spreadsheet Workshop,” April 14.

Doveton, J.—Indonesian Petroleum Association “Geological and Petrophysical Log Analysis,” September 6–10, Bali, Indonesia.

Doveton, J.—SPE Chapter workshop “The Crash Course in Log Analysis—An Excel Spreadsheet Workshop,” October 27, Oklahoma City, Oklahoma.

Doveton, J.—Midwest PTTC Workshop “The Crash Course in Log Analysis—An Excel Spreadsheet Workshop,” December 9, Grayville, Illinois.

Dunham, J.—“Flint Hills mapping,” given as part of Kansas Energy Council’s public discussion of Gov. Sebelius’ Flint Hills wind-energy proposals. This presentation illustrated DASC’s support role in disseminating information necessary in the wind energy debate, including hard-copy and internet map creation, Nichols Hall, University of Kansas, Lawrence, Kansas, November 16.

Dunham, J.—KGS representative at USGS EROS Data Center AASG remote sensing workshop for state geological surveys in which NASA representatives provided an introduction to remote sensing concepts and applications. The workshop introduced material relevant to an RFP later sent to state surveys regarding pilot projects involving the use of remotely sensed data, Sioux Falls, South Dakota, May 15–16.

- Dunham, J.—Session moderator, “Data warehousing—Legal issues and liabilities,” MidAmerica GIS Symposium (MAGIC) Biennial Conference, Kansas City, Missouri, April 20.
- Franseen, E. K.—Member, SEPM Headquarters and Business Committee, 2004–08.
- Franseen, E. K.—Member of SEPM Ad-hoc Committee on E-publishing, 2004–06.
- Franseen, E. K.—Editorial Board, *Geology* (Journal of the Geological Society of America), 2004–07.
- Franseen, E. K.—Co-instructor for AAPG Education Program “Controls on Porosity Types and Distribution in Carbonate Reservoirs,” Almeria, Spain.
- Macfarlane, P. A.—The Interactive Ground-water Tutor Experience, Kansas Association of Teachers of Science Camp, Rock Springs Ranch, April.
- Macfarlane, P. A.—2004 Ground-water Workshop for Secondary Teachers of Earth and Environmental Science, Kansas Geological Survey, July.
- Mandel, R.—Editor-in-Chief, *Geoarchaeology: An International Journal*, John Wiley & Sons, July 1999–January 2004.
- Mandel, R.—Co-Editor-in-Chief, *Geoarchaeology: An International Journal*, John Wiley & Sons, January 2004–May 2007.
- Mandel, R.—Chair, Geological Society of America’s Archaeological Geology Division’s Awards Committee, 2004.
- Mandel, R.—Chair, 18<sup>th</sup> Biennial Meeting of the American Quaternary Association, University of Kansas, June 26–28.
- Mandel, R.—Organizer and trip leader, “Late Quaternary Alluvial Stratigraphy and Geoarchaeology in the Central Great Plains,” 18<sup>th</sup> Biennial Meeting of the American Quaternary Association, Lawrence, Kansas, June 28–30.
- Mandel, R.—Organizer and trip leader, “Buried Paleo-Indian Landscapes and Sites on the High Plains of Northwestern Kansas,” Annual Meeting of the Geological Society of America, Denver, Colorado, November 6.
- Mandel, R.—Reviewer for the Grants Program of the Social Sciences and Humanities Research Council of Canada.
- Nelson, K.—Member of MidAmerica GIS Consortium (MAGIC), 1998–present.
- Nelson, K.—Member of Kansas GIS Technical Advisory Committee (TAC), 1997–present.
- Park, C. B.—Taught Symposium on the Application of Geophysics to Engineering and Environmental Problems at Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP), Colorado Springs, Colorado, February 22–26; and at Korean Society of Engineering Geology (KSEG) Annual Meeting, April, Kangwon National University, Chuncheon, Korea.
- Sophocleous, M.—Invited co-organizer of GSA Topical Session “Sustainable Management of Water Resources” Denver, Colorado, November 9, sponsored by IAH/US National Chapter and GSA Geology and Public Policy Committee.
- Sophocleous, M.—Invited NGWA Groundwater Availability Interest Group Session Moderator on “Water Management Principles” and Panel Open-Forum Discussion invited panelist, 2004 Ground Water Expo, December 12–13, Las Vegas, Nevada.
- Sophocleous, M.—Member, Instream Flow Inter-Agency Team, 2003–06.
- Sophocleous, M.—Consulting Member, Groundwater Marketing Technical Advisory Committee, 2003–06.
- Sorensen, J.—Member, Geoscience Information Society, Best Website Award Committee, 2002–2006.
- Watney, W. L.—Member, Advisory Council, College of Liberal Arts and Sciences, Iowa State University, 2004–08.
- Watney, W. L.—Member, Kansas State University Geology Advisory Council, 2003–.
- Watney, W. L.—Treasurer, Society of Sedimentary Geology (SEPM) Foundation, 2003–07.
- Watney, W. L.—NSF (National Science Foundation—Sedimentary Geology and Paleobiology Division) review panel member (term 2003–05).
- Wilson, B. B.—Worked extensively with the GMD #1 Board in developing aquifer subunits.
- Wilson, B. B.—Developed a water quality monitoring network map for GMD#3.
- Wilson, B. B.—Provided on-site technical support, data and computer consulting for GMD#4.
- Wilson, B. B.—Updated an interim priority/targeting map for the KWO and NRCS EQUIP program; consulted and processed data for the KDA-DWR in aquifer subunit delineation.
- Wilson, B. B.—Kansas Technical Advisory Committee and the DASC Sub-committee to the Kansas GIS Policy Board (2004–present).
- Xia, J.—Editor (Chen, C., and Xia, J.), *Progress in Environmental and Engineering Geophysics: Proceedings of the 1st International Conference on Environmental and Engineering Geophysics (ICEEG)*, June 6–9, 2004, Wuhan, China, Science Press USA Inc., 614 p.

KGS staff members have served on editorial boards of various professional journals, taught short courses, reviewed proposals for national and international agencies, and reviewed manuscripts for various book publishers and the following journals, professional societies, and grant-funding agencies:

Computers and Geosciences  
The Leading Edge  
KGS Current Research in Earth Sciences  
Journal of Geophysical Research  
NSF–Division of Earth Sciences  
–Geotechnical and Geohazard Program  
–Career Program  
DOE, BES Fundamental Research  
Bulletin of Seismological Society of America  
Geological Survey of Canada Bulletin  
Proposals, NSF Division of Earth Science—Earth Scope  
ASTM Standard for Shallow Seismic Reflection  
EAGE Annual Meeting Expanded Abstracts  
Journal of Applied Geophysics  
Journal of Environmental and Engineering Geophysics  
AAPG/SEG 3-D Seismic Interpretation Atlas  
Geophysics, SEG publication  
Canadian Journal of Earth Sciences  
Computer Applications in Geosciences  
Kansas Seismic Atlas  
Expanded Abstracts, SEG Annual Meeting  
Symposium on Geophysics in Kansas  
SEG’s Environmental Geophysics volumes  
U.S. Geological Survey  
Geoscience Journal  
Geology  
SAGEEP EEGS National Meeting  
EAGE Geophysical Prospecting  
Geoarchaeology: An International Journal  
Quaternary Research  
Quaternary Science Reviews  
Quaternary International  
Journal of Archaeological Science  
Journal of Human Evolution  
American Antiquity  
Bulletin of the Geological Society of America  
Journal of Field Archaeology  
Plains Anthropologist  
Soil Science Society of America Journal  
Catena  
Geoderma  
National Geographic Society  
Social Sciences and Humanities Research Council of Canada  
American Chemical Society - Petroleum Research Fund  
Journal of Sedimentary Petrology  
Journal of Sedimentary Research  
SEPM Concepts in Sedimentology and Paleontology  
SEPM Special Publication  
AAPG Bulletin  
AAPG Memoir  
Proceedings of the Ocean Drilling Program  
Journal of Paleontology



Palaios  
Marine Geology  
Oklahoma Geological Survey Special Publication  
SEPM Rocky Mountain Section Special Publication  
The Journal of Geology  
Géologie Méditerranéenne  
Comptes Rendus de l'Académie des Sciences  
Geological Society of London  
Natural Resources Research

KGS Web Site — [www.kgs.ku.edu](http://www.kgs.ku.edu)

During the period 2004–09, 43 KGS county bulletins (extensive studies of geology and ground-water resources of a county) and 122 other KGS bulletins were added to the KGS web site.

During 2004–09, the KGS has scanned 124,000 water well forms out of the 208,000 available (146,000 scanned since beginning of program) and added them to the web site.

During 2004–09, the KGS scanned 39,000 oil and gas completion forms and 29,000 wireline logs and added them to the web site.

During the period mid-2009 to mid-2010, 27 additional publications have been placed online; 17 additional open-file reports have been placed online; an additional 11,000 water well forms have been scanned; and an additional 8,600 wireline logs and 5,000 other oil and gas forms have been scanned.